# CANADIAN JOURNAL OF EARTH SCIENCES, VOLUME 14, 1977

## **AUTHOR INDEX\***

Achab, A. Les chitinozoaires de la zone a Dicellograptus complanatus, Formation de Vaureal, Ordovicien superieur, Ile d'Anticosti, Quebec	3 413
Achab, A. Les chitinozoaires de la zone a Climacograptus prominens elongatus de la Formation de Vaureal (Ordovician superieur), Ile d'Anticosti, Quebec	10 2193
Allen, J. M. Metagabbronorite from DSDP Hole 334; an example of high-temperature deformation and recrystallization near the Mid-Atlantic Ridge	4 886
Allis, R. G. Geothermal measurements in five small lakes of Northwest Ontario	2 332
Allison, I. Brittle deformation of hornblende in a mylonite; a direct geometrical analogue of ductile deformation by translation gliding	8 1953
Andrews, A. J. Low temperature fluid alteration of oceanic Layer 2 basalts, DSDP Leg 37	4 911
Andrews, J. T. The last interglacial-glacial cycle, Clyde Foreland, Baffin Island, N.W.T.; stratigraphy, biostratigraphy, and chronology	12 2824
Archer, J. B. The South Mayo Trough; a possible Ordovician Gulf of California-type marginal basin in the west of Ireland	11 2453
Armon, J. W. Longshore sediment transport and a sediment budget for the Malpeque barrier system, southern Gulf of St. Lawrence	11 2429
Armstrong, J. E. Two major Wisconsin lithostratigraphic units in Southwest British Columbia	7 1471
Arndt, N. T. Thick, layered peridotite-gabbro lava flows in Munro Township, Ontario	11 2620
Ashworth, A. C. A late Wisconsinan coleopterous assemblage from southern Ontario and its environmental significance	7 1625
Aumento, F. Deep Sea Drilling Project, Leg 37, 1974	4 651
Aumento, F. Uranium in oceanic rocks; DSDP Leg 37	4 794
Aumento, F. Geochemical characteristics and evolution of basalts from DSDP Site 332	4 899
Bailey, R. C. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	10 2426
Baragar, W. R. A. Petrology and alteration of selected units of Mid-Atlantic Ridge basalts sampled from sites 332 and 335, DSDP	4 837
Barrett, D. L. Geophysical studies on the eastern continental margin of Baffin Bay and in Lancaster Sound	9 1991
Barton, J. M., Jr. Rb-Sr ages and tectonic setting of some granite intrusions, coastal Labrador	7 1635
Basham, P. W. The seismicity of northern Canada	7 1646
Beakhouse, G. P. A subdivision of the western English River Subprovince	7 1481

<sup>\*</sup>Prepared from the GeoRef data base, at the American Geological Institute, 5205 Leesburg Pike, Falls Church, VA 22041, U.S.A.

Can. J. Earth Sci., 14, 2959 (1977)

2700	
Beaton, D. N. A down-draft fume hood for the control of toxic vapours of heavy liquids used for mineral separations	10 2422
Beck, A. E. Geothermal measurements in five small lakes of Northwest Ontario	2 332
Bell, K. The geochronology of some granitic bodies from eastern Newfoundland and its bearing on Appalachian evolution	3 456
Bennett, P. J. Application of L-S fabric scheme to structural mapping and paleostrain analysis	5 1021
Biquand, D. Paleomagnetisme de la formation des "gres-a-Voltzia" (Buntsandstein superieur) du massif des Vosges (France)	7 1490
Blackburn, C. E. Nature of the Quetico-Wabigoon boundary in the De Courcey- Smiley lakes area, northwestern Ontario	8 1959
Blaxland, A. B. Chronology of the Red Wine alkaline province, central Labrador	8 1940
Blenkinsop, J. The geochronology of some granitic bodies from eastern Newfoundland and its bearing on Appalachian evolution	3 456
Boellstorff, J. D. Wascana Creek Ash (middle Pleistocene) in southern Saskatchewan; characterization, source, fission track age, palaeomagnetism and stratigraphic significance	3 357
Bond, I. J. The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario	11 2669
Bostock, H. H. The composition of hornblende, grunerite, and garnet in Archean iron formation of the Itchen Lake area, District of Mackenzie, Canada	8 1740
Bottjer, D. J. Disorientation of Paleozoic hemispherical corals and stromatoporoids	10 2226
Bourget, E. Observations on the effects of frost on beach sediments at Rimouski, lower St. Lawrence Estuary, Quebec	8 1732
Bowen, A. J. Longshore variations in longshore currents	8 1897
Brand, U. The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario	9 2002
Brand, U. The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario	11 2669
Bretsky, P. W. Macroinvertebrate teilzones and episodic faunal changes from an upper Ordovician flysch in Quebec	7 1674
Broadhead, T. W. Permian platycrinitid crinoids from Arctic North America	5 1166
Brookes, I. A. Geomorphology and Quaternary geology of Codroy Lowland and adjacent plateaus, Southwest Newfoundland	9 2101
Brookes, I. A. Radiocarbon age of Robinson's Head moraine, West Newfoundland, and its significance for postglacial sea level changes	9 2121
Brooks, C. Archean variolites; source of iron in the Precambrian environment?	3 511
Brooks, C. Archean variolites and the hypothesis of quench immiscible liquids reexamined; a reply to criticisms	12 2945
Broster, B. E. Magnetic, physical, and lithologic properties and age of till exposed along the east coast of Lake Huron, Ontario	9 2169
Brown, H. M. Sulphur isotope compositions of sulphides and sulphates, DSDP Leg	4 787
Brun, JP. La zonation structurale des domes gneissiques; un exemple, le massif de Saint-Malo (Massif armoricain, France)	8 1697

#### AUTHOR INDEX 2961 Bryan, W. B. Basalts from DSDP Leg 37 and the FAMOUS area; compositional and 4 875 petrogenic comparisons Buchbinder, G. P-wave residuals in Canada 6 1292 Buchbinder, G. Second microearthquake survey of the St. Lawrence Valley near La Malbaie, Quebec 12 2778 Burke, K. B. S. Density and magnetic succeptibility measurements in southeastern New 1 128 Brunswick Bustin, R. M. Implications of coalification levels, Eureka Sound Formation, northeastern Arctic Canada 7 1588 Caldwell, W. G. E. Oxygen and carbon isotopic study of ammonites from the late Cretaceous Bearpaw Formation in southwestern Saskatchewan 9 2086 Camfield, P. A. A possible Proterozoic plate boundary in North America 6 1229 Campbell, F. A. Tourmaline concentrations in Proterozoic sediments of the southern Cordillera of Canada and their economic significance 10 2348 Campbell, F. H. A. Large-scale stratiform and intrusive sedimentary breccias of the lower Proterozoic Gouldburn Group, Bathurst Inlet, N.W.T. 10 2364 Carmichael, C. M. Removal of atmospheric argon contamination and the use and misuse of the K-Ar isochron method 3 337 Carmichael, C. M. Magnetization and suitability for paleomagnetism field intensity measurements of selected samples from sites 332, 334, and 335 of Leg 37 DSDP 4 745 9 2178 Cawthorn, R. G. Archean variolites; quenched immiscible liquids Cecile, M. P. Large-scale stratiform and intrusive sedimentary breccias of the lower Proterozoic Gouldburn Group, Bathurst Inlet, N.W.T. 10 2364 Chatterton, B. D. E. Silurian (Wenlockian) trilobites from Baillie-Hamilton Island, Canadian Arctic Archipelago 2 285 Christiansen, E. A. Wascana Creek Ash (middle Pleistocene) in southern Saskatchewan; characterization, source, fission track age, palaeomagnetism and stratigraphic significance 3 357 Church, B. N. Revised stratigraphy of the Takla Group, North-central British Columbia 2 318 Church, W. R. Fractionation trends in the Bay of Islands ophiolite of Newfoundland; polycyclic cumulate sequences in ophiolites and their classification 5 1156 Church, W. R. The ophiolites of southern Quebec; oceanic crust of Betts Cove type 7 1668 Church, W. R. Early Aphebian basaltic volcanism in the southern District of Keewatin, Northwest Territories 10 2425 Churcher, C. S. Late Pleistocene muskox (Ovibos) from the early Wisconsin at Scarborough Bluffs, Ontario, Canada 2 326 Churkin, M., Jr. Lower Devonian conodonts from Port St. Nicholas, southeastern Alaska 12 2928 Clague, J. J. Two major Wisconsin lithostratigraphic units in Southwest British Columbia 7 1471 Clark, J. Magnetization of oceanic crustal Layer 2; results and thoughts after DSDP

Clement, P. Geomorphological conditions of gabbro weathering at Mount Megantic,

Quebec

4 684

Clowes, R. M. Gravity evidence against a high-angle fault crossing the Rocky Mountain Trench near Radium, British Columbia	1 25
Clowes, R. M. A marine deep seismic sounding system	6 1276
Cobbold, P. R. Description and origin of banded deformation structures; I, Regional strain, local perturbations, and deformation bands	8 1721
Cobbold, P. R. Description and origin of banded deformation structures; II, Rheology and the growth of banded perturbations	11 2510
Cochrane, N. A. Geomagnetic sounding near the northern termination of the Appalachian System	12 2858
Cocks, L. R. M. The location of the Japetus Ocean suture in Newfoundland	3 488
Coles, R. L. Magnetic anomalies and rock magnetizations in the southern Coast Mountains, British Columbia; possible relation to subduction	8 1753
Cormier, R. F. A radiometric age of deformed granitic rocks in North-central New Brunswick	7 1687
Coulbourn, W. T. Structural evidence of the evolution of fore-arc basins off South America	1 102
Crampton, C. B. A study of the dynamics of hummocky microrelief in the Canadian north	4 639
Crocket, J. H. Palladium, iridium, and gold contents of mafic and ultramafic rocks drilled from the Mid-Atlantic Ridge, Leg 37, Deep Sea Drilling Project	4 777
Cruden, D. Length distribution of strike-slip faults and the process of breakage in continental crust	3 508
Cumming, G. L. Lead and uranium in basalts from DSDP Leg 37 cores	4 768
Currie, J. B. A method of distinguishing regional directions of jointing and of identifying joint sets associated with individual geologic structures	6 1211
Currie, K. L. A note on post-Mississippian thrust faulting in northwestern Cape Breton Island	12 2937
Currie, R. G. Geologic interpretation of magnetic and gravity anomalies in the Strait of Juan de Fuca, U. SCanada	2 223
Currie, R. G. Magnetic anomalies and rock magnetizations in the southern Coast Mountains, British Columbia; possible relation to subduction	8 1753
Curtis, L. W. Chronology of the Red Wine alkaline province, central Labrador	8 1940
David, M. Dynamic clustering and strong patterns recognition; new tools in automatic classification	10 2232
Davies, J. F. Structural interpretation of the Timmins mining area, Ontario	5 1046
Dawson, E. An analytical representation of the geomagnetic field in Canada for 1975; Part I, The main field	3 477
Delorme, L. D. Freshwater shelled invertebrate indicators of paleoclimate in northwestern Canada during late glacial times	9 2029
Dixon, J. M. A centrifuge furnace for separating phases at high temperature in experimental petrology	5 1077
Dixon, O. A. Stratigraphy and sedimentology of upper Silurian rocks, northern Somerset Island, Arctic Canada	6 1427
Dmitriev, L. Geochemical characteristics and evolution of basalts from DSDP Site 332	4 899

AUTHOR INDEX	2963
<b>Dmitriyev, L.</b> Geochemical characteristics and evolution of basalts from DSDP Site 332	4 899
Doig, R. The geochronology of the granitic rocks along the Bear-Slave structural province boundary, Northwest Canadian Shield	6 1356
Donaldson, J. A. Orthoquartzite pebbles in Archean conglomerate, North Spirit Lake, northwestern Ontario	9 1980
Dostal, J. Trace element geochemistry of a Precambrian diabase dike from western Ontario	12 2941
Dreimanis, A. Magnetic, physical, and lithologic properties and age of till exposed along the east coast of Lake Huron, Ontario	9 2169
Dubois, J. New Hebrides Trench; subduction rate from associated lithospheric bulge	2 250
Ducrot, J. Probleme de la limite Precambrien-Cambrien; etude radiochronologique par la methode U-Pb sur zircons du volcan du Jbel Boho (Anti-Atlas marocain)	12 2771
Duke, N. A. Petrology of the Blue Mountain and Bigwood felsic alkaline complexes of the Grenville Province of Ontario	4 515
Duncan, P. M. A gravity study of the Saguenay area, Quebec	2 145
<b>Dunlop, D. J.</b> Simulation of long-term changes in the magnetic signal of the oceanic crust	4 716
Eberlein, G. D. Lower Devonian conodonts from Port St. Nicholas, southeastern Alaska	12 2928
Edgar, A. D. Petrology of the Blue Mountain and Bigwood felsic alkaline complexes of the Grenville Province of Ontario	4 515
Edhorn, AS. Early Cambrian algae croppers	5 1014
Edlund, S. A. Depots et phenomenes eoliens sur l'ile de Banks, Territories du Nord- Ouest, Canada	11 2462
Edwards, R. N. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	10 2426
Eisbacher, G. H. Mesozoic-Tertiary basin models for the Canadian Cordillera and their geological constraints	10 2414
Ellis, C. H. Calcareous nannofossils from Mid-Atlantic rocks of DSDP Leg 37	4 707
Ellis, R. M. Gravity evidence against a high-angle fault crossing the Rocky Mountain Trench near Radium, British Columbia	1 25
Emslie, R. F. Paleomagnetism of the Harp Lake Complex and associated rocks	6 1187
Emslie, R. F. The Harp dikes and their relationship to the Helikian geological record in central Labrador	12 2683
Ethier, V. G. Tourmaline concentrations in Proterozoic sediments of the southern Cordillera of Canada and their economic significance	10 2348

Evans, M. E. Oxide microstructures and the magnetic properties of Leg 37 basalts

Eyles, N. Late Wisconsinan glacitectonic structures and evidence of postglacial

Eyles, N. Glacier movement, ice structures, and medial moraine form at a glacier

Falconer, R. K. H. Mid-Atlantic Ridge at 37° N; geophysical anomalies in the area of

confluence, Berendon Glacier, British Columbia, Canada

permafrost in North-central Newfoundland

Leg 37 drilling

4 656

12 2797

12 2807

Falconer, R. K. H. Ordovician strata on the southeastern Baffin Island shelf revealed by shallow drilling	8 1925
Farquhar, R. M. Lead isotopes in the Grenville and adjacent Palaeozoic formations	1 56
Farquharson, R. B. Sulphur isotope compositions of sulphides and sulphates, DSDP Leg 37	4 787
Fletcher, I. R. Lead isotopes in the Grenville and adjacent Palaeozoic formations	1 56
Ford, D. C. Interglacial chronology of the Rocky and Mackenzie mountains based upon <sup>230</sup> Th- <sup>234</sup> U dating of calcite speleothems	11 2543
Forester, R. W. Petrogenesis of the Boundary Intrusions in the Flin Flon area of Saskatchewan and Manitoba	3 444
Forester, R. W. Oxygen and carbon isotopic study of ammonites from the late Cretaceous Bearpaw Formation in southwestern Saskatchewan	9 2086
Forsyth, D. A. The seismicity of northern Canada	7 1646
Fox, R. C. Notes on the dentition and relationships of the late Cretaceous insectivore Gypsonictops Simpson	8 1823
Franklin, J. M. Lead-zinc-barite of the Dorion area, Thunder Bay District, Ontario	9 1963
Fratta, M. Trace element geochemistry of a Precambrian diabase dike from western Ontario	12 2941
Frebold, H. Hettangian (lower Jurassic) rocks and faunas, northern Yukon Territory	1 89
Frest, T. J. Carpocrinus (Echinodermata; Crinoidea) from the late Silurian of Somerset Island, Northwest Territories, Canada	1 132
Frith, R. The geochronology of the granitic rocks along the Bear-Slave structural province boundary, Northwest Canadian Shield	6 1356
Frith, R. A. The geochronology of the granitic rocks along the Bear-Slave structural province boundary, Northwest Canadian Shield	6 1356
Fryer, B. J. Trace element geochemistry of the Sokoman Iron Formation	7 1598
Fyffe, L. R. Comparison of some tectonostratigraphic zones in the Appalachians of Newfoundland and New Brunswick	6 1468
Fyffe, L. R. A radiometric age of deformed granitic rocks in North-central New Brunswick	7 1687
Fyson, W. K. Shape, size, and orientation of muscovite crystals in a schist of variable metamorphic grade	2 185
Gardner, J. S. Some geomorphic effects of a catastrophic flood on the Grand River, Ontario	10 2294
Garland, G. D. A gravity study of the Saguenay area, Quebec	2 145
Garland, G. D. Geothermal measurements in five small lakes of Northwest Ontario	2 332
Garland, G. D. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	10 2426
Gelinas, L. Archean variolites and the hypothesis of quench immiscible liquids reexamined; a reply to criticisms	12 2945
Giles, P. S. Stratigraphy, paleogeography, and tectonic setting of the Coldbrook Group in the Caledonia Highlands of southern New Brunswick	6 1263
Goodwin, A. M. Volcanic rocks of the Blake River Group, Abitibi greenstone belt, Ontario, and their sulfur content	4 539

AUTHOR INDEX	2903
Goodwin, A. M. Archean basin-craton complexes and the growth of Precambrian shields	12 2737
Gosselin, J. R. Characterization of iron oxide compounds in soils by Moessbauer and other methods	1 1
Gough, D. I. A possible Proterozoic plate boundary in North America	6 1229
Gravenor, C. P. Magnetic, physical, and lithologic properties and age of till exposed along the east coast of Lake Huron, Ontario	9 2169
Green, J. C. Iron-rich basaltic komatiites in the early Precambrian Vermilion District, Minnesota	10 2181
Greenhouse, J. P. Resistivity mapping of fossil permafrost patterns in southwestern Ontario	3 496
Greggs, R. G. The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario	11 2669
Grenon, A. Rejet net probable de la faille de LG-3 et identification de structures en domes et bassins, territoire du Nouveau-Quebec, Quebec	3 500
Griffiths, J. R. Mesozoic-early Cenozoic volcanism, plutonism, and mineralization in southern British Columbia; a plate tectonic synthesis	7 1611
Gunther, P. R. Implications of coalification levels, Eureka Sound Formation, northeastern Arctic Canada	7 1588
Gupta, V. K. Density and magnetic suceptibility measurements in southeastern New Brunswick	1 128
Haakanson, L. The influence of wind, fetch, and water depth on the distribution of sediments in Lake Vanern, Sweden	3 397
Hale, C. J. Simulation of long-term changes in the magnetic signal of the oceanic crust	4 716
Hall, D. H. Partial melting and mineral-stability boundaries and their bearing on the seismic exploration of the lithosphere in Canada	11 2638
Hall, J. M. Magnetization of oceanic crustal Layer 2; results and thoughts after DSDP Leg 37	4 684
Hall, J. M. The natural remanent magnetization of sediment cores from the Beaufort Sea	9 2007
Harmon, R. S. Interglacial chronology of the Rocky and Mackenzie mountains based upon <sup>230</sup> Th- <sup>234</sup> U dating of calcite speleothems	11 2543
Harrigan, D. B. Petrography and geochemistry of epidote alteration patches in gabbro dykes at Matagami, Quebec	3 505
Harrison, W. Reworked middle Wisconsinan(?) plant fossils from the Brampton Esker, southern Ontario	3 426
Hasegawa, H. S. Focal parameters of four Sverdrup Basin, Arctic Canada, earthquakes in November and December of 1972	11 2481
Hashizume, M. Source parameters of the June 13, 1967 earthquake near Lake Ontario, New York State	11 2651
Hayatsu, A. Removal of atmospheric argon contamination and the use and misuse of the K-Ar isochron method	3 337
Hayatsu, A. The Sudbury dikes of the Grenville Front region; paleomagnetism, petrochemistry, and K-Ar age studies	8 1867

Hearty, D. J. Lateral variations in upper crustal structure below the La Malbaie area from slowness, azimuth, and traveltime measurements of teleseisms	10 2284
Hein, F. J. Bar evolution and development of stratification in the gravelly, braided, Kicking Horse River, British Columbia	4 562
Helmstaedt, H. Metagabbronorite from DSDP Hole 334; an example of high- temperature deformation and recrystallization near the Mid-Atlantic Ridge	4 886
Henry, S. G. Paleomagnetism of the upper Keweenawan sediments; the Nonesuch Shale and Freda Sandstone	5 1128
Herous, Y. Algues siluriennes de la Formation de Sayabec (Lac Matapedia, Quebec)	12 2865
Hibbard, J. P. Fossils from the Dunnage Melange, North-central Newfoundland	5 1176
Hillhouse, J. Wrangellia; a displaced terrane in northwestern North America	11 2565
Hillhouse, J. Paleomagnetism of the Triassic Nikolai Greenstone, McCarthy Quadrangle, Alaska	11 2578
Hills, L. V. Post-glacial ungulates (Cervus and Bison) from Three Hills, Alberta	5 963
Hills, L. V. Implications of coalification levels, Eureka Sound Formation, northeastern Arctic Canada	7 1588
Hnatiuk, J. Determination of permafrost thickness in wells in northern Canada	3 375
Hodych, J. P. Single-domain theory for the reversible effect of small uniaxial stress upon the remanent magnetization of rock	9 2047
Holland, J. G. Trace elements and petrogenesis of DSDP 37 basalts	4 809
Honkura, Y. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	2 256
Honkura, Y. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	10 2426
Howe, R. C. Calcareous nannofossils from Mid-Atlantic rocks of DSDP Leg 37	4 707
Howells, K. Seismic profiling in Miramichi Bay, New Brunswick	12 2909
Hoy, T. Stratigraphy and structure of the Kootenay Arc in the Riondel area, southeastern British Columbia	10 2301
Hubert, C. Algues siluriennes de la Formation de Sayabec (Lac Matapedia, Quebec)	12 2865
Hughes, C. J. Archean variolites; quenched immiscible liquids	1 137
Hunter, J. A. Applications of geophysical techniques in permafrost regions	1 117
Ikeda, Y. Grain size of plagioclase of the basaltic andesite dikes, Iritono, central Abukuma Plateau	8 1860
Innes, M. J. S. The Gow Lake impact structure, northern Saskatchewan	8 1788
Irrinki, R. R. A radiometric age of deformed granitic rocks in North-central New Brunswick	7 1687
Irving, E. Paleomagnetism of the Harp Lake Complex and associated rocks	6 1187
Jackson, H. R. Geophysical studies on the eastern continental margin of Baffin Bay and in Lancaster Sound	9 1991
Jamieson, R. A. A suite of alkali basalts and gabbros associated with the Hare Bay Allochthon of western Newfoundland	3 346
Janes, T. W. Application of L-S fabric scheme to structural mapping and paleostrain analysis	5 1021

AUTHOR HOLA	2,0,
Jansa, L. F. Ordovician strata on the southeastern Baffin Island shelf revealed by shallow drilling	8 1925
Johnson, R. Size independent criteria for estimating relative age and the relationships among growth parameters in a group of fossil reptiles (Reptilia; Ichthyosauria)	8 1916
Johnson, W. M. A down-draft fume hood for the control of toxic vapours of heavy liquids used for mineral separations	10 2422
Johnston, L. M. Nitrogen and C/N ratios in the sediments of lakes Superior, Huron, St. Clair, Erie, and Ontario	10 2402
Jones, B. Stratigraphy and sedimentology of upper Silurian rocks, northern Somerset Island, Arctic Canada	6 1427
Jones, D. L. Wrangellia; a displaced terrane in northwestern North America	11 2565
Kalas, L. L. Freshwater shelled invertebrate indicators of paleoclimate in northwestern Canada during late glacial times	9 2029
Kanasewich, E. R. Synthetic seismograms and the response of an anisotropic attenuating medium	5 1062
Karrow, P. F. Late Pleistocene muskox (Ovibos) from the early Wisconsin at Scarborough Bluffs, Ontario, Canada	2 326
Karrow, P. F. Reworked middle Wisconsinan(?) plant fossils from the Brampton Esker, southern Ontario	3 426
Karrow, P. F. Pollen-bearing Erie interstadial sediments from near St. Mary's, Ontario	8 1888
Kearey, P. A gravity survey of the central Labrador Trough, northern Quebec	1 45
Keeley, J. R. Longshore variations in longshore currents	8 1897
Keeley, J. R. Nearshore currents and beach topography, Martinique Beach, Nova Scotia	8 1906
Keen, C. E. Geophysical studies on the eastern continental margin of Baffin Bay and in Lancaster Sound	9 1991
Kehlenbeck, M. M. The Barnum Lake Pluton, Thunder Bay, Ontario	9 2157
Kemp, A. L. W. Nitrogen and C/N ratios in the sediments of lakes Superior, Huron, St. Clair, Erie, and Ontario	10 2402
Kerr, J. W. Cornwallis fold belt and the mechanism of basement uplift	6 1374
Kerr, J. W. Cornwallis lead-zinc district; mississippi valley-type deposits controlled by stratigraphy and tectonics	6 1402
De Kimpe, C. R. Geomorphological conditions of gabbro weathering at Mount Megantic, Quebec	10 2262
King, L. H. Paleocontinental slopes of East Coast Geosyncline (Canadian Atlantic margin)	11 2553
King, M. S. Acoustic velocities and electrical properties of frozen sandstones and shales	5 1004
Kobluk, D. R. Disorientation of Paleozoic hemispherical corals and stromatoporoids	10 2226
Kodama, H. Characterization of iron oxide compounds in soils by Moessbauer and other methods	1 1
Koerner, R. M. Ice thickness measurements and their implications with respect to past and present ice volumes in the Canadian High Arctic ice caps	12 2697

Krouse, H. R. Sulphur isotope compositions of sulphides and sulphates, DSDP Leg 37	4 787
Krouse, H. R. Stratigraphic differentiation by sulfur isotopes between upper Cambrian and lower Devonian gypsum-bearing units, District of Mackenzie, N.W.T.	12 2790
Krupka, K. M. A new technique in neutron activation analysis of Na/K ratios of fluid	
inclusions and its application to the gold-quartz veins at the O'Brien Mine, Quebec, Canada	12 2760
Krutikhovskaya, Z. A. Magnetic model for the Earth's crust under the Ukrainian	
Shield	12 2718
Kurtz, R. D. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	2 256
Kurtz, R. D. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	10 2426
La Tour, T. E. Brittle deformation of hornblende in a mylonite; a direct geometrical analogue of ductile deformation by translation gliding	8 1953
Lambert, R. St. J. Trace elements and petrogenesis of DSDP 37 basalts	4 809
Lancelot, J. R. Probleme de la limite Precambrien-Cambrien; etude	
radiochronologique par la methode U-Pb sur zircons du volcan du Jbel Boho (Anti-Atlas marocain)	12 2771
Langford, F. F. Northern extent of Lake Agassiz in eastern Saskatchewan	6 1286
Launay, J. New Hebrides Trench; subduction rate from associated lithospheric bulge	2 250
Leblanc, G. Second microearthquake survey of the St. Lawrence Valley near La	
Malbaie, Quebec	12 2778
Lee, H. J. Silurian stratigraphy and depositional environments; Charlo-Upsalquitch Forks area, New Brunswick	11 2533
Lefebvre, D. Dynamic clustering and strong patterns recognition; new tools in automatic classification	10 2232
Lenz, A. C. Llandoverian and Wenlockian brachiopods from the Canadian Cordillera	7 1521
Lenz, A. C. Some Pacific faunal province graptolites from the Ordovician of northern Yukon, Canada	8 1946
Levinson, A. A. Hydrogen; a reducing agent in some uranium deposits	11 2679
Lewry, J. F. Variation in lithology and tectonometamorphic relationships in the Precambrian basement of northern Saskatchewan	6 1453
Long, D. G. F. A tide-influenced delta complex in the upper Proterozoic Shaler Group, Victoria Island, Canada	10 2246
Long, D. G. F. Resedimented conglomerates of Huronian (lower Aphebian) age, from the north shore of Lake Huron, Ontario, Canada	11 2495
Luckman, B. H. Lichenometric dating of Holocene moraines at Mount Edith Cavell, Jasper, Alberta	8 1809
Mackasey, W. O. Nature of the Quetico-Wabigoon boundary in the De Courcey- Smiley lakes area, northwestern Ontario	8 1959
Mackay, D. K. The stability of ice-push features, Mackenzie River, Canada	10 2213
Mackay, J. R. Pulsating pingos, Tuktoyaktuk Peninsula, N.W.T.	2 209
Mackay, J. R. The stability of ice-push features, Mackenzie River, Canada	10 2213

AOTHOR INDEX	2707
MacLean, B. Ordovician strata on the southeastern Baffin Island shelf revealed by shallow drilling	8 1925
MacLean, W. H. Petrography and geochemistry of epidote alteration patches in gabbro dykes at Matagami, Quebec	3 505
MacLean, W. H. Sulfides in Leg 37 drill core from the Mid-Atlantic Ridge	4 674
MacLeod, N. S. Geologic interpretation of magnetic and gravity anomalies in the Strait of Juan de Fuca, U. SCanada	2 223
Majumdar, S. C. The structure of the crust and upper mantle under the highest ranges of the Canadian Rockies from a seismic refraction survey	2 196
Mamet, B. Algues siluriennes de la Formation de Sayabec (Lac Matapedia, Quebec)	12 2865
Marsh, P. Effect of vegetation on limestone solution in a small High Arctic basin	4 571
Marshall, J. New Hebrides Trench; subduction rate from associated lithospheric bulge	2 250
Matsumoto, T. Timing of geological events in the Circum-Pacific region	4 551
Matthews, J. V., Jr. Coleoptera fossils; their potential value for dating and correlation of late Cenozoic sediments	10 2339
Mattinson, J. M. U-Pb ages of some crystalline rocks from the Burlington Peninsula, Newfoundland, and implications for the age of Fleur de Lys metamorphism	10 2316
Mauk, F. J. Paleomagnetism of the upper Keweenawan sediments; the Nonesuch Shale and Freda Sandstone	5 1128
McCann, S. B. Longshore sediment transport and a sediment budget for the Malpeque barrier system, southern Gulf of St. Lawrence	11 2429
McKay, A. G. Seismic profiling in Miramichi Bay, New Brunswick	12 2909
McKeague, J. A. Characterization of iron oxide compounds in soils by Moessbauer and other methods	1 1
McKerrow, W. S. The location of the Iapetus Ocean suture in Newfoundland	3 488
McLean, W. H. The geochemistry of possible metavolcanic rocks and their relationship to mineralization at Montauban-les-Mines, Quebec	11 2440
Medioli, F. S. Temporal changes in foraminiferal distributions in Miramichi River estuary, New Brunswick	7 1566
Mereu, R. F. The structure of the crust and upper mantle under the highest ranges of the Canadian Rockies from a seismic refraction survey	2 196
Mereu, R. F. Lateral variations in upper crustal structure below the La Malbaie area from slowness, azimuth, and traveltime measurements of teleseisms	10 2284
Merz, B. A. The Sudbury dikes of the Grenville Front region; paleomagnetism, petrochemistry, and K-Ar age studies	8 1867
Meyers, R. E. The Harp dikes and their relationship to the Helikian geological record in central Labrador	12 2683
Miller, G. H. The last interglacial-glacial cycle, Clyde Foreland, Baffin Island, N.W.T.; stratigraphy, biostratigraphy, and chronology	12 2824
Milligan, T. Magnetization of oceanic crustal Layer 2; results and thoughts after DSDP Leg 37	4 684
Mitchell, R. H. Ultramafic xenoliths from the Elwin Bay kimberlite; the first Canadian paleogeotherm	6 1202

Mitchell, R. H. Lead-zinc-barite of the Dorion area, Thunder Bay District, Ontario	9 1963
Mitchell, W. S. Uranium in oceanic rocks; DSDP Leg 37	4 794
Moberly, R. Structural evidence of the evolution of fore-arc basins off South America	1 102
Mokievsky-Zubok, O. Glacier-caused slide near Pylon Peak, British Columbia	11 2657
Monger, J. W. H. Revised stratigraphy of the Takla Group, North-central British Columbia	2 318
Monger, J. W. H. Upper Paleozoic rocks of the western Canadian Cordillera and their bearing on Cordilleran evolution	8 1832
Morgan, A. V. Resistivity mapping of fossil permafrost patterns in southwestern Ontario	3 496
Morris, W. A. The use of paleomagnetic data to delineate the history of the development of the Connemara Antiform	11 2601
Morris, W. A. An alternative view of the Gondwana Paleozoic apparent polar wander path	11 2674
Mothersill, J. S. Selected element concentrations in the post-glacial sediments of Thunder Bay, Lake Superior; distribution and methods of analyses	5 1054
Muehlenbachs, K. Oxygen isotope geochemistry of rocks from DSDP Leg 37	4 771
Muller, J. E. Evolution of the Pacific Margin, Vancouver Island, and adjacent regions	9 2062
Naldrett, A. J. Volcanic rocks of the Blake River Group, Abitibi greenstone belt, Ontario, and their sulfur content	4 539
Narbonne, G. M. Stratigraphic setting of the type specimen of Carpocrinus arcticus Frest and Strimple from the late Silurian of Somerset Island, Arctic Canada	9 2168
Newitt, L. R. An analytical representation of the geomagnetic field in Canada for 1975; Part I, The main field	3 477
Niblett, E. R. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	2 256
Niblett, E. R. Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	10 2426
Nicholls, J. Mineralogy and petrology of Quaternary lavas from the Snake River plain, Idaho	9 2140
Noble, J. P. A. Trace fossils from the Silurian Chaleurs Group of southeastern Gaspe Peninsula, Quebec	2 239
Noble, J. P. A. Silurian stratigraphy and depositional environments; Charlo- Upsalquitch Forks area, New Brunswick	11 2533
Norris, G. Palynofloral evidence for terrestrial middle Jurassic in the Moose River basin, Ontario	2 153
O'Brien, B. H. Pre-Acadian deformation, metamorphism, and intrusion in the vicinity of the Pokiok Pluton, West-central New Brunswick, and its regional implications	8 1796
Ohmoto, H. A new technique in neutron activation analysis of Na/K ratios of fluid inclusions and its application to the gold-quartz veins at the O'Brien Mine, Quebec, Canada	12 2760
Ojakangas, R. W. Orthoquartzite pebbles in Archean conglomerate, North Spirit Lake, northwestern Ontario	9 1980
Okulitch, A. V. The Triassic unconformity of South-central British Columbia	4 606

AUTHOR INDEX	2971
Olhoeft, G. R. Electrical properties of natural clay permafrost	1 16
Olhoeft, G. R. Permafrost; electrical properties of the active layer measured in situ	4 582
Ongley, E. D. Sediment and nutrient loadings to Lake Ontario; methodological arguments	7 1555
Oro, F. H. Oxygen and carbon isotopic study of ammonites from the late Cretaceous Bearpaw Formation in southwestern Saskatchewan	9 2086
Osborn, G. D. Episodic Holocene alluviation in meltwater channels near Calgary, Alberta	7 1515
Palmer, H. C. The Sudbury dikes of the Grenville Front region; paleomagnetism, petrochemistry, and K-Ar age studies	8 1867
Park, J. K. A reconnaissance paleomagnetic survey of the central Labrador Trough, Quebec	2 159
Park, J. K. Paleomagnetism of the Harp Lake Complex and associated rocks	6 1187
Pashkevich, I. K. Magnetic model for the Earth's crust under the Ukrainian Shield	12 2718
Paterson, I. A. The geology and evolution of the Pinchi fault zone at Pinchi Lake, central British Columbia	6 1324
Perry, D. G. Silurian (Wenlockian) trilobites from Baillie-Hamilton Island, Canadian Arctic Archipelago	2 285
Philpotts, A. R. Archean variolites; quenched immiscible liquids	1 137
Pickerill, R. K. Trace fossils from the Silurian Chaleurs Group of southeastern Gaspe Peninsula, Quebec	2 239
Pickerill, R. K. Enigmatic trace fossils from the Silurian Chaleurs Group of the southeastern Gaspe Peninsula, Quebec	12 2729
Pigage, L. C. Rb-Sr dates for granodiorite intrusions on the northeast margin of the Shuswap metamorphic complex, Cariboo Mountains, British Columbia	7 1690
Piper, D. J. W. The natural remanent magnetization of sediment cores from the Beaufort Sea	9 2007
Pissart, A. Depots et phenomenes eoliens sur l'île de Banks, Territories du Nord- Ouest, Canada	11 2462
Plant, A. G. Petrology and alteration of selected units of Mid-Atlantic Ridge basalts sampled from sites 332 and 335, DSDP	4 837
Poulton, T. P. Hettangian (lower Jurassic) rocks and faunas, northern Yukon Territory	1 89
Poupinet, G. P-wave residuals in Canada	6 1292
Prichonnet, G. La tectonique du front appalachien dans la region de St-Dominique, Quebec	5 1085
Pringle, G. J. Petrology and alteration of selected units of Mid-Atlantic Ridge basalts sampled from sites 332 and 335, DSDP	4 837
Ralston, J. G. Sediment and nutrient loadings to Lake Ontario; methodological arguments	7 1555
Ranalli, G. Length distribution of strike-slip faults and the process of breakage in continental crust	3 508
Randall, A. G. Determination of permafrost thickness in wells in northern Canada	3 375
Raynal, M. La tectonique du front appalachien dans la region de St-Dominique, Quebec	5 1085

Read, P. B. The Triassic unconformity of South-central British Columbia	4 606
Recy, J. New Hebrides Trench; subduction rate from associated lithospheric bulge	2 250
Reik, G. A. A method of distinguishing regional directions of jointing and of identifying joint sets associated with individual geologic structures	6 1211
Reinson, G. E. Tidal-current control of submarine morphology at the mouth of the Miramichi estuary, New Brunswick	11 2524
Riccio, L. Fractionation trends in the Bay of Islands ophiolite of Newfoundland; polycyclic cumulate sequences in ophiolites and their classification	5 1156
Riddihough, R. P. A model for Recent plate interactions off Canada's west coast	3 384
Rigby, J. K. A new middle Ordovician sponge from western Newfoundland	11 2662
Risk, M. J. Disorientation of Paleozoic hemispherical corals and stromatoporoids	10 2226
Rivers, T. Shape, size, and orientation of muscovite crystals in a schist of variable metamorphic grade	2 185
Roeder, P. L. A centrifuge furnace for separating phases at high temperature in experimental petrology	5 1077
Rogerson, R. J. Glacier movement, ice structures, and medial moraine form at a glacier confluence, Berendon Glacier, British Columbia, Canada	12 2807
Ross, D. I. Mid-Atlantic Ridge at 37° N; geophysical anomalies in the area of Leg 37 drilling	4 664
Ross, J. V. The internal fabric of an alpine peridotite near Pinchi Lake, central British Columbia	1 32
Rossiter, J. R. Permafrost; electrical properties of the active layer measured in situ	4 582
Roulston, B. V. Trace fossils from the Silurian Chaleurs Group of southeastern Gaspe Peninsula, Quebec	2 239
Roulston, B. V. Enigmatic trace fossils from the Silurian Chaleurs Group of the southeastern Gaspe Peninsula, Quebec	12 2729
Roux, A. Algues siluriennes de la Formation de Sayabec (Lac Matapedia, Quebec)	12 2865
Roy, D. W. Rejet net probable de la faille de LG-3 et identification de structures en domes et bassins, territoire du Nouveau-Quebec, Quebec	3 500
Roy, J. L. La position stratigraphique determinee paleomagnetiquement de sediments carboniferes de Minudie Point, Nouvelle Ecosse; a propos de l'horizon repere magnetique du Carbonifere	5 1116
Ruitenberg, A. A. Stratigraphy, paleogeography, and tectonic setting of the Coldbrook Group in the Caledonia Highlands of southern New Brunswick	6 1263
Russell, R. D. Concentration and composition of lead in DSDP Leg 37 cores	4 785
Rust, B. R. Mass flow deposits in a Quaternary succession near Ottawa, Canada; diagnostic criteria for subaqueous outwash	2 175
Rust, B. R. The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario	9 2002
Rust, B. R. The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario	11 2669
Ryall, P. J. C. Magnetization of oceanic crustal Layer 2; results and thoughts after DSDP Leg 37	4 584

AUTHOR INDEX	29/3
Ryan, P. D. The South Mayo Trough; a possible Ordovician Gulf of California-type marginal basin in the west of Ireland	11 2453
Saunderson, H. C. Reworked middle Wisconsinan(?) plant fossils from the Brampton Esker, southern Ontario	3 426
Savage, N. M. Lower Devonian conodonts from the Karheen Formation, southeastern Alaska	2 278
Savage, N. M. Middle Devonian (Eifelian) conodonts of the genus Polygnathus from the Wadleigh Limestone, southeastern Alaska	6 1343
Savage, N. M. Lower Devonian conodonts from Port St. Nicholas, southeastern Alaska	12 2928
Scarfe, C. M. Secondary minerals in some basaltic rocks from DSDP Leg 37	4 903
Schafer, C. T. Distribution and depositional history of sediments in Baie des Chaleurs, Gulf of St. Lawrence	4 593
Schafer, C. T. Temporal changes in foraminiferal distributions in Miramichi River estuary, New Brunswick	7 1566
Schau, M. Petrology and alteration of selected units of Mid-Atlantic Ridge basalts sampled from sites 332 and 335, DSDP	4 837
Schloessin, H. H. On the pressure dependence of solidus temperatures and electrical conductivity during melting of JOIDES Leg 37 samples	4 756
Schmidt, P. W. An alternative view of the Gondwana Paleozoic apparent polar wander path	11 2674
Schroeder, J. Les formes de glaces des grottes de la Nahanni, Territoires du Nord- Ouest, Canada	5 1179
Schulz, K. J. Iron-rich basaltic komatiites in the early Precambrian Vermilion District, Minnesota	10 2181
Schwarcz, H. P. An estimate of the oxygen isotope composition of a large segment of the Canadian Shield in northwestern Ontario	5 927
Schwarcz, H. P. Interglacial chronology of the Rocky and Mackenzie mountains based upon <sup>230</sup> Th- <sup>234</sup> U dating of calcite speleothems	11 2543
Schwarz, E. J. Depth of burial from remanent magnetization; the Sudbury Irruptive at the time of diabase intrusion (1250 Ma)	1 82
Schwerdtner, W. M. Application of L-S fabric scheme to structural mapping and paleostrain analysis	5 1021
Schwerdtner, W. M. Estimates of distortional strain in mylonites from the Grenville Front tectonic zone, Tomiko area, Ontario	8 1708
Scott, D. B. Temporal changes in foraminiferal distributions in Miramichi River estuary, New Brunswick	7 1566
Scott, W. J. Applications of geophysical techniques in permafrost regions	1 117
Seguin, M. K. Determination de la geometrie et des proprietes physiques du pergelisol discontinu de la region de Schefferville	3 431
Seifert, K. E. Rare earths in the Marcy and Morin anorthosite complexes	5 1033
Seifert, K. E. Deformational characteristics of experimentally deformed Adirondack anorthosite	12 2706
Shackleton, D. M. Post-glacial ungulates (Cervus and Bison) from Three Hills, Alberta	5 963

Sharma, K. N. M. Rejet net probable de la faille de LG-3 et identification de structures	
en domes et bassins, territoire du Nouveau-Quebec, Quebec	3 500
Shaw, J. Tills deposited in arid polar environments	6 1239
Sheppard, L. E. A down-draft fume hood for the control of toxic vapours of heavy liquids used for mineral separations	10 2422
Shieh, YN. An estimate of the oxygen isotope composition of a large segment of the Canadian Shield in northwestern Ontario	5 927
Short, S. K. The last interglacial-glacial cycle, Clyde Foreland, Baffin Island, N.W.T.; stratigraphy, biostratigraphy, and chronology	12 2824
Sibbald, T. I. Variation in lithology and tectonometamorphic relationships in the Precambrian basement of northern Saskatchewan	6 1453
Sigleo, W. R. Pollen-bearing Erie interstadial sediments from near St. Mary's, Ontario	8 1888
Silberling, N. J. Wrangellia; a displaced terrane in northwestern North America	11 2565
Simard, G. Carbon 14 and tritium measurements of groundwaters the Eaton River basin and in the Mirabel area, Quebec	10 2325
Sinha, A. K. A theoretical study on electromagnetic probing of permafrost terrains	10 2388
Skevington, D. Fossils from the Dunnage Melange, North-central Newfoundland	5 1176
Slawson, W. F. Concentration and composition of lead in DSDP Leg 37 cores	4 785
Smith, D. G. W. Secondary minerals in some basaltic rocks from DSDP Leg 37	4 903
Smith, M. F. Rare earths in the Marcy and Morin anorthosite complexes	5 1033
Smith, R. E. Petrography and geochemistry of epidote alteration patches in gabbro dykes at Matagami, Quebec	3 505
Snavely, P. D., Jr. Geologic interpretation of magnetic and gravity anomalies in the Strait of Juan de Fuca, U. SCanada	2 223
Spence, G. D. Gravity evidence against a high-angle fault crossing the Rocky Mountain Trench near Radium, British Columbia	1 25
Sprenke, K. F. Synthetic seismograms and the response of an anisotropic attenuating medium	5 1062
Srivastava, S. P. Ordovician strata on the southeastern Baffin Island shelf revealed by shallow drilling	8 1925
Stalker, A. M. The probable extent of Classical Wisconsin ice in southern and central Alberta	11 2614
Stamatelopoulou-Seymour, K. The geochemistry of possible metavolcanic rocks and their relationship to mineralization at Montauban-les-Mines, Quebec	11 2440
Starkey, J. The contouring of orientation data represented in spherical projection	2 268
Stensland, W. A. Rare earths in the Marcy and Morin anorthosite complexes	5 1033
Stouge, S. Fossils from the Dunnage Melange, North-central Newfoundland	5 1176
Stout, M. Z. Mineralogy and petrology of Quaternary lavas from the Snake River plain, Idaho	9 2140
Strangway, D. W. Permafrost; electrical properties of the active layer measured in situ	4 582
Strimple, H. L. Carpocrinus (Echinodermata; Crinoidea) from the late Silurian of Somerset Island, Northwest Territories, Canada	1 132

### AUTHOR INDEX 5 1166 Strimple, H. L. Permian platycrinitid crinoids from Arctic North America

- Strong, D. F. The geochronology of some granitic bodies from eastern Newfoundland 3 456 and its bearing on Appalachian evolution
- Stupavsky, M. Magnetic, physical, and lithologic properties and age of till exposed along the east coast of Lake Huron, Ontario 9 2169
- Sues, H.-D. Dentaries of small theropods from the Judith River Formation 4 587 (Campanian) of Alberta, Canada
- Sugden, D. E. Tors, felsenmeer, and glaciation in northern Cumberland Peninsula, 12 2817 Baffin Island
- Syme, E. C. Petrogenesis of the Boundary Intrusions in the Flin Flon area of 3 444 Saskatchewan and Manitoba
- Symons, D. T. A. Geotectonics of Cretaceous and Eocene plutons in British Columbia; 6 1246 a paleomagnetic fold test
- Symons, D. T. A. Paleomagnetism of Mesozoic plutons in the westernmost Coast Complex of British Columbia 9 2127
- Tange, N. Source parameters of the June 13, 1967 earthquake near Lake Ontario, New 11 2651 York State
- Tanner, P. W. G. The use of paleomagnetic data to delineate the history of the 11 2601 development of the Connemara Antiform
- Teruta, Y. Palladium, iridium, and gold contents of mafic and ultramafic rocks drilled 4 777 from the Mid-Atlantic Ridge, Leg 37, Deep Sea Drilling Project
- Themistocleous, S. G. Estimates of distortional strain in mylonites from the Grenville 8 1708 Front tectonic zone, Tomiko area, Ontario
- 8 1788 Thomas, M. D. The Gow Lake impact structure, northern Saskatchewan
- Thomas, R. L. Sediment and nutrient loadings to Lake Ontario; methodological 7 1555 arguments
- Thomas, R. L. Nitrogen and C/N ratios in the sediments of lakes Superior, Huron, St. 10 2402 Clair, Erie, and Ontario
- Thompson, G. Basalts from DSDP Leg 37 and the FAMOUS area; compositional and petrogenic comparisons 4 875
- Tiffin, D. L. Geologic interpretation of magnetic and gravity anomalies in the Strait 2 223 of Juan de Fuca, U. S.-Canada
- Townsend, M. G. Characterization of iron oxide compounds in soils by Moessbauer 1 1 and other methods
- Tremblay, R. J. Characterization of iron oxide compounds in soils by Moessbauer and 1 1 other methods
- Trzcienski, W. E., Jr. Archean variolites and the hypothesis of quench immiscible 12 2945 liquids reexamined; a reply to criticisms
- Van der Voo, R. Late Hadrynian and Helikian pole positions from the Spokane 1 67 Formation, Montana
- Van der Voo, R. Paleomagnetism of the upper Keweenawan sediments; the Nonesuch Shale and Freda Sandstone 5 1128
- Van Everdingen, R. O. Stratigraphic differentiation by sulfur isotopes between upper Cambrian and lower Devonian gypsum-bearing units, District of Mackenzie, N.W.T. 12 2790

VerPloeg, A. J. Deformational characteristics of experimentally deformed Adirondack anorthosite	12 2706
Vilks, G. The natural remanent magnetization of sediment cores from the Beaufort Sea	9 2007
Vincentet, JS. Depots et phenomenes eoliens sur l'ile de Banks, Territories du Nord- Ouest, Canada	11 2462
Vitorello, I. Late Hadrynian and Helikian pole positions from the Spokane Formation, Montana	1 67
Voigt, A. F. Rare earths in the Marcy and Morin anorthosite complexes	5 1033
Wade, J. A. Stratigraphy of Georges Bank Basin; interpreted from seismic correlation to the western Scotian Shelf	10 2274
Wagner, F. J. E. Palaeoecology of marine Pleistocene Mollusca, Nova Scotia	6 1305
Wagner, F. J. E. Recent mollusc distribution patterns and palaeobathymetry, southeastern Beaufort Sea	9 2013
Walawender, M. J. Shock-produced mosaicism in plagioclase, Charlevoix Structure, Quebec	1 74
Walker, R. G. Bar evolution and development of stratification in the gravelly, braided, Kicking Horse River, British Columbia	4 562
Walters, M. Middle and upper Ordovician graptolites from the St. Lawrence Lowlands, Quebec, Canada	5 932
Watts, S. H. Tors, felsenmeer, and glaciation in northern Cumberland Peninsula, Baffin Island	12 2817
Wayman, M. L. Oxide microstructures and the magnetic properties of Leg 37 basalts	4 656
Westgate, J. A. Wascana Creek Ash (middle Pleistocene) in southern Saskatchewan; characterization, source, fission track age, palaeomagnetism and stratigraphic significance	3 357
Westgate, J. A. Identification and significance of late Holocene tephra from Otter Creek, southern British Columbia, and localities in West-central Alberta	11 2593
Wetmiller, R. J. The seismicity of northern Canada	7 1646
White, R. E. The structure of the crust and upper mantle under the highest ranges of the Canadian Rockies from a seismic refraction survey	2 196
Wickens, A. J. The upper mantle of southern British Columbia	5 1100
Wickman, F. E. A new technique in neutron activation analysis of Na/K ratios of fluid inclusions and its application to the gold-quartz veins at the O'Brien Mine, Quebec, Canada	12 2760
Williams, H. Ophiolitic melange and its significance in the Fleur de Lys Supergroup, northern Appalachians	5 987
Wilson, M. V. H. Paleoecology of Eocene lacustrine varves at Horsefly, British Columbia	5 953
Wilson, M. V. H. New records of insect families from the freshwater middle Eocene of British Columbia	5 1139
Wong, H. K. T. Nitrogen and C/N ratios in the sediments of lakes Superior, Huron, St. Clair, Erie, and Ontario	10 2402
Wong, J. Permafrost; electrical properties of the active layer measured in situ	4 582
Woo, MK. Effect of vegetation on limestone solution in a small High Arctic basin	4 571

#### AUTHOR INDEX

2977

Wright, C. Lateral variations in upper crustal structure below the La Malbaie area from 10 2284 slowness, azimuth, and traveltime measurements of teleseisms Wright, J. A. Geomagnetic sounding near the northern termination of the Appalachian 12 2858 System Yamaguchi, M. Concentration and composition of lead in DSDP Leg 37 cores 4 785 Young, G. M. Stratigraphic correlation of upper Proterozoic rocks of northwestern Canada 8 1771 Young, G. M. A tide-influenced delta complex in the upper Proterozoic Shaler Group, 10 2246 Victoria Island, Canada Young, I. F. Paleocontinental slopes of East Coast Geosyncline (Canadian Atlantic 11 2553 margin) Zoltai, S. C. Freshwater shelled invertebrate indicators of paleoclimate in northwestern Canada during late glacial times 9 2029

## **SUBJECT INDEX\***

bsolute age	Metamorphic rocks, metaigneous rocks,
Dates	whole rock, minerals, Sr/Rb, isochrons,
Igneous rocks, diabase, whole rock, K/A	overprinting, metamorphism,
dike swarms, Precambrian, Ontario,	Precambrian, Labrador, Red Wine
Grenville Front	alkaline complex
(Palmer, H. C., et al.) 8 1	67 (Blaxland, A. B., et al.) 8 1940
Igneous rocks, granite, metamorphic rock	Minerals, calcite, Th/U, speleothems, caves,
granite gneiss, Sr/Rb, isochrons, isotop	
strontium, ratios, Precambrian,	Northwest Territories
Proterozoic, Labrador	(Harmon, R. S., et al.) 11 2543
(Barton, J. M., Jr.) 7 1	
Igneous rocks, granite, whole rock, Sr/Ri	
isochrons, plutons, emplacement,	(Delorme, L. D., et al.) 9 2029
Ordovician, New Brunswick, north-	Sediments, C-14, cores, Quaternary, Arctic
central	Ocean, Beaufort Sea
-	
. , , ,	Sediments, sand, C-14, Holocene,
Igneous rocks, granodiorite, whole rock,	
Sr/Rb, isochrons, stocks, emplacement	
overprinting, Jurassic, Cretaceous, Brit	Sediments, sand, shells, moraines, C-14,
Columbia	
(Pigage, L. C.) 7 1	
Igneous rocks, plutonic, granitoid, whole	
rock, Sr/Rb, isochrons, data, Paleozoio	
Appalachians, Newfoundland	Pleistocene, Wisconsinan, British
(,,	Columbia, southwest
Igneous rocks, plutonic rocks, volcanic	(Armstrong, J. E., et al.) 7 1471
rocks, minerals, zircon, U/Pb,	Shells, C-14, glaciation, Quaternary,
interpretation, overprinting, igneous	Northwest Territories
activity, metamorphism, orogeny, Tac	
Orogeny, Ordovician, Fleur de Lys	Wood, C-14, eskers, Pleistocene, Ontario,
Supergroup, Newfoundland, Burlington	
Peninsula	(Karrow, P. F., et al.) 3 426
(Mattinson, J. M.) 10 2	316 Interpretation
Igneous rocks, volcanic rocks, minerals,	Sr/Rb, igneous rocks, volcanic rocks, basalt,
zircon, U/Pb, boundary, Precambrian,	Precambrian, Aphebian, Spi Lake Basalt,
Cambrian, Morocco	Northwest Territories
(Ducrot, J., et al.) 12 2	771 (Church, W. R.) 10 2425
Metamorphic rocks, gneiss, migmatite,	U/Pb, experimental studies, isotopes, lead,
igneous rocks, plutonic, granite,	ratios, galena, isochrons, overprinting,
granodiorite, whole rock, minerals, Sr	Rb, Precambrian, Grenville Province,
K/Ar, isochrons, overprinting, intrusion	
metamorphism, Precambrian, Archear	
Northwest Territories, Bear Province,	Methods
Slave Province	K/Ar, isochrons, K-40/Ar-36, Ar-40/Ar-36,

<sup>\*</sup>Prepared from the GeoRef data base, at the American Geological Institute, 5205 Leesburg Pike, Falls Church, VA 22041, U.S.A.

6 1356

experimental studies, igneous rocks,

(Frith, R., et al.)

Can. J. Earth Sci., 14, 2978 (1977)

basalt, diabase, Ar-36, initial,		occurrence, floral list, cores	
determination, contamination	,	(Howe, R. C., et al.)	4 707
atmosphere, removal		Stromatolites	
(Hayatsu, A., et al.)	3 337	Cambrian, Newfoundland, paleoe	cology.
laska		growth, restriction, worms, gra-	
Paleontology		cropping, indicators, ichnofossi	
Conodonts, Devonian, Port Sai	nt Nicholas	(Edhorn, AS.)	5 1014
(Savage, N. M., et al.)	12 2928	Appalachians	
Conodonts, Devonian, southeas	st. Alberto	Structural geology	
Islands	,	Tectonics, structure, Canada,	
(Savage, N. M.)	6 1343	Newfoundland, New Brunswick	k. Avalon
Stratigraphy		Zone, Gander Zone, Fredericto	
Cenozoic, biostratigraphy		(Fyffe, L. R.)	6 1468
(Matthews, J. V., Jr.)	10 2339	Arctic Ocean	
Devonian, biostratigraphy, con-		Geochronology	
southeast, Karheen Passage	,	Paleomagnetism, Quaternary, Ber	aufort Sea
(Savage, N. M.)	2 278	(Vilks, G., et al.)	9 2007
Triassic, paleomagnetism, McC		Geophysical surveys	, 200.
Quadrangle, Wrangellia		Seismic surveys, Baffin Bay, Lan	caster
(Hillhouse, J. W.)	11 2578	Sound	caster
Structural geology	11 2010	(Jackson, H. R., et al.)	9 1991
Tectonics, structure, Wrangellis		Stratigraphy	7 1771
(Jones, D. L., et al.)	11 2565	Holocene, changes of level, Beau	fort See
Alberta	11 2303	(Wagner, F. J. E.)	9 2013
Geochronology		Atlantic Ocean	9 2013
Lichenometry, Holocene, Jaspe	r National	Geochemistry	
Park, Mount Edith Cavell, F			eth
Creek, Angel Glacier, Cavell		Isotopes, lead, igneous rocks, No	
(Luckman, B. H.)	8 1809	Atlantic, Mid-Atlantic Ridge,	
Tephrochronology, Holocene,		Drilling Project, Leg 37, Site 3	332, Site
(Westgate, J. A.)	11 2593	334, Site 335	4 705
Geomorphology	11 2393	(Yamaguchi, M., et al.)	4 785
Glacial geology, glaciation, Ple	istosono	Isotopes, lead, uranium, basalt, l	
south-central	istocene,	Atlantic, Mid-Atlantic Ridge,	
	11 2614	Drilling Project, Leg 37, Site	332, Site
(Stalker, A. M.) Paleontology	11 2614	335	4 7/0
	r:n <sub>e</sub>	(Cumming, G. L.)	4 768
Mammalia, Holocene, Three H		Isotopes, oxygen, igneous rocks,	
(Shackleton, D. M., et al.)	5 963	Atlantic, Mid-Atlantic Ridge,	
Reptilia, Cretaceous, south-cer		Drilling Project, Leg 37, Site	332, Site
(Sues, HD.)	4 587	333, Site 334, Site 335	
Sedimentary petrology		(Muehlenbachs, K.)	4 771
Sedimentation, processes, Hole	ocene,	Isotopes, sulfur, basalt, sediment	
Calgary, Cochrane	7 1616	Atlantic, Mid-Atlantic Ridge,	
(Osborn, G. D.)	7 1515	Drilling Project, Leg 37, Site	332B, Site
Structural geology		333A, Site 335	
Fractures, joints, structural and	ilysis, central,	(Krouse, H. R., et al.)	4 787
South Ram River		Palladium, iridium, gold, igneou	
(Currie, J. B., et al.)	6 1211	North Atlantic, Mid-Atlantic	
Algae		Deep Sea Drilling Project, Le	g 37, Site
Floral studies		332B, Site 334	
Silurian, Quebec, occurrence,		(Crocket, J. H., et al.)	4 777
reefs, lagoons, taxonomy, ne		Trace elements, basalt, North A	
(Herous, Y., et al.)	12 2865	Mid-Atlantic Ridge, Deep Se	
Nannofossils		Project, Leg 37, Site 332, Site	334, Site
Miocene, Pliocene, Atlantic O		335	
Atlantic, biostratigraphy, zo	ning,	(Lambert, R. St. J., et al.)	4 809

Uranium, basalt, North Atlantic, Mid-	Stratigraphy
Atlantic Ridge, Deep Sea Drilling	Mesozoic, Cenozoic, lithostratigraphy,
Project, Leg 37, Site 332, Site 333A, Sit	,
334, Site 335	(Wade, J. A.) 10 2274
(Mitchell, W. S., et al.) 4 79	whocehe, I hotehe, bloshangraphy, algae,
Oceanography Sadiments addingstation North Adamsia	North Atlantic, Mid-Atlantic Ridge,
Sediments, sedimentation, North Atlantic,	Deep Sea Drilling Project, Leg 37, Site
Canada, Gulf of Saint Lawrence, Baie d	332, Site 334
Chaleurs (Schafer, C. T.) 4 5	(Howe, R. C., et al.) 4 707
Symposia, North Atlantic, Mid-Atlantic	Tectonophysics
Ridge, Deep Sea Drilling Project, Leg 3	Crust, paleomagnetism, North Atlantic,
(Aumento, F.) 4 6	Mid-Atlantic Ridge Deen See Drilling
Petrology	Project, Leg 37, Site 332, Site 334, Site
Igneous rocks, basalt glass, North Atlantic	335
Mid-Atlantic Ridge, Deep Sea Drilling	(Carmichael, C. M.) 4 745
Project, Leg 37, Site 332, Site 332B, Sit	
333A, Site 334	Mid-Atlantic Ridge, Deep Sea Drilling
(MacLean, W. H.) 4 6	
Igneous rocks, basalt, magmas, North	334, Site 335
Atlantic, Mid-Atlantic Ridge, Deep Sea	
Drilling Project, Leg 37, Site 332	(Ryall, P. J. C., et al.) 4 684
(Dmitriev, L., et al.) 4 8	Crust, paleomagnetism, North Atlantic,
Igneous rocks, basalt, North Atlantic, Mic	Mid-Milantie Ridge, Deep Sea Dinning
Atlantic Ridge, Deep Sea Drilling	Troject, Deg 57, Bite 552B, Bite 554, Bite
Project, Leg 37, Site 332, Site 335	335
(Baragar, W. R. A., et al.) 4 8	(Dunlop, D. J., et al.) 4 716
Igneous rocks, basalt, North Atlantic, Mic	Plate tectonics, structure, North Atlantic.
Atlantic Ridge, Deep Sea Drilling	Mid-Atlantic Ridge, Deep Sea Drilling
Project, Leg 37, Site 332, Site 333, Site	Project, Leg 37, Site 332, Site 333, Site
334, Site 335, FAMOUS	334, Site 335
(Bryan, W. B., et al.) 4 8	5 (Ross, D. I., et al.) 4 664
Igneous rocks, basalt, North Atlantic, Mic	Augusticalia
Atlantic Ridge, Deep Sea Drilling	Stratigraphy
Project, Leg 37, Site 332, Site 333A, Si	Paleozoic, continental drift
335	(Schmidt, P. W., et al.) 11 2674
(Scarfe, C. M., et al.) 4 9	
Igneous rocks, basalt, North Atlantic, Mic	
Atlantic Ridge, Deep Sea Drilling	Patterns, classification, dynamic clustering
Project, Leg 37, Site 332B	method, graphic display, applications,
(Andrews, A. J.) 4 9	
Igneous rocks, basalt, North Atlantic, Mi	Quebec, Monteregian Tims
Atlantic Ridge, Deep Sea Drilling	(Deletite, D., et al.)
Project, Leg 37, Site 332B, Site 334, Si	Structural geology
335	Offentation, preferred offentation, patterns,
(Wayman, M. L., et al.) 4 (	contouring, graphic display, statistical
Igneous rocks, basalt, phase equilibria,	analysis
North Atlantic, Mid-Atlantic Ridge,	(Starkey, J.) 2 268
Deep Sea Drilling Project, Leg 37, Site	Barite
332	Canada
(Schloessin, H. H.)	Ontario, Thunder Bay District, deposits,
Metamorphic rocks, metagabbro-norite,	veins, ore minerals, geochemistry, major
North Atlantic, Mid-Atlantic Ridge,	elements, minor elements, isotopes,
	mineralization, controls, Precambrian,
Deep Sea Drilling Project, Leg 37, Site	
334	Aphebian, Sibley Group

Biogeography		Stratigraphy Cretaceous, Eocene, paleomagnetis	m Const
Graptolithina		plutonic complex, Kitimat	in, Coast
Ordovician, faunal provinces, Pa	acitic region,	(Symons, D. T. A.)	6 1246
Yukon Territory			0 1240
(Lenz, A. C.)	8 1946	Eccene, paleoecology, Horsefly	5 953
Paleozoic		(Wilson, M. V. H.)	3 933
Atlantic Ocean, Iapetus, Newfo	undland,	Mesozoic, paleomagnetism, Coast	1
Brachiopoda, Trilobita, migra	tion,	Mountains, Stephens Island, Ban	KS
inhibition, suture zones, evide	ence	Island, Gil Island, Captain Cove	
(McKerrow, W. S., et al.)	3 488	(Symons, D. T. A.)	9 2127
Boron		Permian, Triassic, south-central	
Abundance		(Read, P. B., et al.)	4 606
Metamorphic rocks, metasedim	entary rocks.	Pleistocene, Wisconsinan, lithostra	tigraphy,
tourmaline, metallogeny, min		southwest	
exploration, British Columbia		(Armstrong, J. E., et al.)	7 1471
Cordillera	, Canadian	Precambrian, Cambrian, lithostration	graphy,
(Ethier, V. G., et al.)	10 2348	Kootenay Arc, Riondel	
	10 2340	(Hoy, T.)	10 2301
Brachiopoda		Triassic, Takla Group, lithostratign	aphy,
Articulata	4044	north-central	
Silurian, Canada, Canadian Con		(Monger, J. W. H., et al.)	2 318
taxonomy, faunal list, paleoe	cology, new	Structural geology	
taxa		Structural analysis, interpretation,	central.
(Lenz, A. C.)	7 1521	Pinchi Lake, Murray Ridge	,
British Columbia		(Ross, J. V.)	1 32
Geochronology		Tectonics, evolution, Canadian Co	
Absolute age, Mesozoic, Caribo	00	Insular Belt, Vancouver Island	Idilicia,
Mountains, Shuswap Comple	x, Wells	(Muller, J. E.)	9 2062
Gray Provincial Park	,		
(Pigage, L. C.)	7 1690	Tectonics, evolution, Triassic, Jura	
Tephrochronology, Holocene, s		central, Pinchi Lake, Pinchi faul	
Creek	,	(Paterson, I. A.)	6 1324
(Westgate, J. A.)	11 2593	Tectonics, structure, Wrangellia	11 0565
Geomorphology	11 2393	(Jones, D. L., et al.)	11 2565
Fluvial features, Kicking Horse	Diver Field	Tectonophysics	
		Plate tectonics, subduction, Coast	
(Hein, F. J., et al.)	4 562	Mountains	
Glacial geology, glaciers, Beren		(Coles, R. L., et al.)	8 1753
(Eyles, N., et al.)	12 2807	Cambrian	
Glacial geology, glaciers, Coast	Mountains,	Africa	
Pylon Peak		Morocco, absolute age, volcanic re	ocks,
(Mokievsky-Zubok, O.)	11 2657	boundary, lower Cambrian	
Geophysical surveys		(Ducrot, J., et al.)	12 2771
Surveys, Juan de Fuca Strait		Canada	
(MacLeod, N. S., et al.)	2 223	Newfoundland, ichnofossils, algae,	,
Paleontology		stromatolites, paleoecology, low	
Insecta, Eocene		Cambrian, Bonavista Formation	
(Wilson, M. V. H.)	5 1139	(Edhorn, AS.)	5 1014
Petrology		Northwest Territories, evaporites,	
Metamorphic rocks, metasedin	nentary rocks.	stratigraphy, isotopes, sulfur, up	
Precambrian, Canadian Cord		Cambrian, Saline River Formati	
Kimberley, Sullivan Mine, S		(Van Everdingen, R. O., et al.)	12 2790
Mine, North Star Mine	IT 414-W-I	Canada	
(Ethier, V. G., et al.)	10 2348	Geomorphology	
Seismology	10 2340	Frost action, permafrost, north, A	retic
Elastic waves, mantle, south		region	ii o ti o
	£ 1100	(Crampton, C. B.)	4 639
(Wickens, A. J.)	5 1100	(Crampton, C. D.)	4 039

Geophysical surveys		Cenozoic	
Well-logging, north	2 275	Atlantic Ocean	1-43
(Hnatiuk, J., et al.) Paleontology	3 375	Scotian Shelf, Georges Bank, of seismic surveys	correlation,
Brachiopoda, Silurian, Canadian	Cordillera.	(Wade, J. A.)	10 2274
Northwest Territories, Macket		North America	
Mountains, British Columbia,		Canada, Arctic Archipelago, U	Inited States.
Lake		Alaska, biostratigraphy, Inse	
(Lenz, A. C.)	7 1521	Cenozoic, Tertiary, upper To	
Petrology	, 1021	Quaternary	or clury,
Metamorphic rocks, metavolcan	ic rocks	(Matthews, J. V., Jr.)	10 2339
Precambrian, Archean, Ontari		Changes of level	10 255
Abitibi Belt	o, Quooco,	Arctic Ocean	
(Cawthorn, R. G.)	9 2178	Beaufort Sea, Holocene, indica	itors
Metamorphic rocks, metavolcan		Mollusca, paleobathymetry	11013,
Precambrian, Archean, Ontari		(Wagner, F. J. E.)	9 201:
Abitibi Belt	o, Quebec,	Canada	9 201.
	12 2945		rainas
(Gelinas, L., et al.)	12 2943	Newfoundland, Holocene, mor	raines,
Seismology  Electic resumants		absolute age	0.010
Elastic waves, regional	6 1202	(Brookes, I. A.)	9 212
(Buchbinder, G., et al.)	6 1292	Chemical analysis	
Interior, mantle, Canadian Shiel		Techniques	
(Hall, D. H.)	11 2638	Sample preparation, reagents,	
Seismicity, north		ammonium pyrrolidine dithi	
(Basham, P. W., et al.)	7 1646	methyl isobutyl ketone, met	
Stratigraphy		extraction, sediments, Great	Lakes, Lake
Mesozoic, Tertiary, paleogeogra		Superior	
Canadian Cordillera, Alberta,	British	(Mothersill, J. S.)	5 105
Columbia, Yukon Territory		Sample preparation, reagents,	hydrated
(Eisbacher, G. H.)	10 2414	antimony pentoxide, activat	ion analysis,
Paleozoic, Triassic, lithostratigra	phy, west,	gamma-ray spectra, ore dep	osits, gold,
Canadian Cordillera		veins, quartz, Quebec	
(Monger, J. W. H.)	8 1832	(Krupka, K. M., et al.)	12 276
Structural geology		Coelenterata	
Tectonics, evolution, Canadian	Shield,	Tabulata	
Superior Province		Paleozoic, North America, siz	e, orientation
(Goodwin, A. M.)	12 2737	statistical analysis, indicator	
Tectonics, Manitoba, Ontario, C		paleoecology, sedimentation	
Shield, Superior Province, En		(Kobluk, D. R., et al.)	10 222
Subprovince		Conodonts	
(Beakhouse, G. P.)	7 1481	Biostratigraphy	
Tectonophysics		Ordovician, Dunnage Melange	e.
Plate tectonics, evolution, Meso	zoic.	Newfoundland	-,
Tertiary, Canadian Cordillera		(Hibbard, J. P., et al.)	5 117
Columbia	,	Faunal studies	3 117
(Griffiths, J. R.)	7 1611	Devonian, Alaska, taxonomy,	
arbon	, 1011	biostratigraphy	
Abundance		(Savage, N. M., et al.)	12 202
	n Greet		12 292
Sediments, lakes, ratios, nitroge	n, Great	Devonian, Eifelian, Alaska, or	,
Lakes	10 2402	faunal list, biostratigraphy,	morphology,
(Kemp, A. L. W., et al.)	10 2402	taxonomy, Polygnathus	
arboniferous		(Savage, N. M.)	6 134
Canada		Devonian, Karheen Formation	
Nova Scotia, paleomagnetism,		southeast, biostratigraphy, f	aunal list,
magnetostratigraphy, marker	horizons	taxonomy, new taxa	
(Roy, J. L.)	5 1116	(Savage, N. M.)	2 27

Continental drift		USSR	
Gondwana		Ukrainian Shield, structure, thickness,	
Australia, reconstruction, paleomagnetism,		magnetic anomalies, mathematic	al models
Paleozoic		(Krutikhovskaya, Z. A., et al.)	12 2718
(Schmidt, P. W., et al.)	11 2674	Crystal growth	
Continental slope		Framework silicates, feldspar group	
Canada		Plagioclase, grain size, magmas, co	oling,
Maritime Provinces, seismic su	rveys	rates, dikes, basaltic andesite, the	eoretical
(King, L. H., et al.)	11 2553	studies, Japan	
Cretaceous		(Ikeda, Y.)	8 1860
Canada		Sheet silicates, mica group	
Alberta, Reptilia, upper Cretac	eous,	Muscovite, crystals, size, shape,	
Campanian, Judith River Fo	rmation	recrystallization, metamorphism,	grade.
(Sues, HD.)	4 587	pelitic schist, Precambrian, Onta	-
British Columbia, Coast pluton	ic complex,	(Rivers, T., et al.)	2 185
paleomagnetism, tectonics, p	late	Deformation	2 100
tectonics, intrusions		Experimental studies	
(Symons, D. T. A.)	6 1246	Plastic flow, lamellae, high temper	ature
Northwest Territories, Ellesme	re Island,	high pressure, cataclasis, anortho	
Axel Heiberg Island, coal, co	oalification,	New York, Adirondack Mounta	
upper Cretaceous, Eureka Sc	ound	(Seifert, K. E., et al.)	12 2706
Formation		Recrystallization, metagabbro-nori	
(Bustin, R. M., et al.)	7 1588	metamorphism, mid-ocean ridge	
Saskatchewan, paleoclimatology, Mollusca,			3,
upper Cretaceous, Bearpaw	Formation	Atlantic Ocean, North Atlantic	4 886
(Forester, R. W., et al.)	9 2086	(Helmstaedt, H., et al.)	
North America		Shock, mosaicism, plagioclase, X-r	-
Regional, Mammalia, upper Ci	retaceous	diffraction analysis, meteor craters,	
(Fox, R. C.)	8 1823	Quebec, Charlevoix Structure	1 74
Crust		(Walawender, M. J.)	1 74
Arctic Ocean		Field studies	
Baffin Bay, Lancaster Sound, o	oceanic type,	Folds, domes, schistosity, lineation	
continental type, boundary,		structural analysis, zoning, meta	
margin, seismic surveys		rocks, migmatites, gneisses, mas	
(Jackson, H. R., et al.)	9 1991	diapirism, models, France, Saint	-Malo
Atlantic Ocean		Massif	
North Atlantic, Layer 2, ocean	nic, magnetic	(Brun, JP.)	8 1697
properties, paleomagnetism		Fractures, slip, rotation, strain, pre-	
(Carmichael, C. M.)	4 745	orientation, analogs, translation	
North Atlantic, Layer 2, ocean	nic, magnetic	brittle deformation, minerals, ho	
properties, paleomagnetism		metamorphic rocks, mylonite, C	Canada,
(Dunlop, D. J., et al.)	4 716	Ontario	
North Atlantic, Layer 2, ocean	nic, magnetic	(Allison, I., et al.)	8 1953
properties, paleomagnetism		Strain, estimation, folds, buckling,	
(Ryall, P. J. C., et al.)	4 684	mylonitization, theoretical studi	es,
Canada		Ontario, Grenville Front	
Quebec, La Malbaie, upper cr	ust, structure,	(Themistocleous, S. G., et al.)	8 1708
variations, teleseismic signal		Theoretical studies	
(Hearty, D. J., et al.)	10 2284	Strain, perturbations, zoning, class	ification,
Quebec, Saguenay Valley, stru		banded structures, kink-band str	ructures,
surveys, Bouguer anomalies		shear zones	
(Duncan, P. M., et al.)	2 145	(Cobbold, P. R.)	8 1721
Rocky Mountains, structure, o		Strain, rheology, banded structure	s, kink-
sounding		band structures	
(Mereu, R. F., et al.)	2 196	(Cobbold, P. R.)	11 2510

Devonian		Engineering geology	
Canada		Earthquakes	
Northwest Territories, evaporites, stratigraphy, isotopes, sulfur, lower		Microearthquakes, geologic hazards, seismic risk, surveys, Quebec, La Malbaie	
Devonian, Bear Rock Forma		(Leblanc, G., et al.) 12 27	78
(Van Everdingen, R. O., et a.	<i>l</i> ) 12 2790	Materials, properties	
United States		Permafrost, active layer, electrical	
Alaska, conodonts, biostratigrap	bhy, lower	properties, conductivity, dielectric	
Devonian		constant, measurement, in situ,	
(Savage, N. M., et al.)	12 2928	applications, geophysical methods,	
Alaska, southeast, biostratigrapl	hy,	electromagnetic methods, experimental	
conodonts, lower Devonian,	Karheen	studies, field studies, techniques, Canad	a,
Formation		Northwest Territories, Tuktoyaktuk	
(Savage, N. M.)	2 278	Peninsula	
Alaska, southeast, conodonts,		(Wong, J., et al.) 4 5	82
biostratigraphy, middle Devo Eifelian, Wadleigh Limestone		Permafrost, clays, electrical properties, resistivity, dielectric constant, loss	
(Savage, N. M.)	6 1343	tangent, experimental studies, data, soil	
Earth	0 1545	mechanics	
Magnetic field			16
Charts, Canada, 1975		Sedimentary rocks, sandstone, shale,	10
(Dawson, E., et al.)	3 477	experimental studies, laboratory studies	
Earthquakes	3 4//	freezing, permafrost, simulation, electric	
Canada		properties, acoustical properties, elastic	
Northwest Territories, Sverdrug	Rasin	waves, velocity, ultrasonic, applications	
1972, shallow-focus earthqua		geophysical methods	,
mechanism, fault planes, P-w		(King, M. S.) 5 10	004
(Hasegawa, H. S.)	11 2481	Methods	704
Quebec, La Malbaie, microeart		Electromagnetic methods, permafrost,	
geologic hazards	nquakes,	theoretical studies	
(Leblanc, G., et al.)	12 2778	(Sinha, A. K.) 10 23	388
United States	12 2//0	Geophysical methods, electrical methods,	
New York, Genesee County, 1	967	resistivity, ground, aerial photography,	,
magnitude, epicenters, mech		permafrost, patterned ground, polygons	2
slip faults, elastic waves	amoni, strike-	mapping, Canada, Ontario, southwest	,,
(Hashizume, M., et al.)	11 2651		496
Echinodermata	11 2031	Geophysical methods, permafrost, field	470
Crinoidea		studies, Northwest Territories, Arctic	
Permian, North America, Arct	ic region,	region	
taxonomy, synonymy, morpl	nology,	(Scott, W. J., et al.) 1	117
affinities, Platycrinitidae, Platycrinit	tycrinites, new	Geophysical methods, well-logging,	
taxa		permafrost, extent, thickness,	
(Broadhead, T. W., et al.)	5 1166	experimental studies, field studies,	
Silurian, Ludlovian, Northwest	Territories,	Quebec, Schefferville	
Somerset Island, distribution	, taxonomy,	(Seguin, M. K.)	431
morphology, affinities, evolution, lineages,		Well-logging, acoustical, electrical,	
Carpocrinus arcticus, new tax	a	permafrost, thickness, interpretation,	
(Frest, T. J., et al.)	1 132	Canada, north	
Silurian, Ludlovian, Northwest	Territories,	(Hnatiuk, J., et al.)	375
Somerset Island, type specir	nens, age,	Shorelines	
Carpocrinus arcticus		Barrier islands, sedimentation, transport,	
(Narbonne, G. M.)	9 2168	longshore currents, Prince Edward Isla	and
Ecology		(Armon, J. W., et al.) 11 2	2429
Foraminifera		Sedimentation, tides, currents, New	
Estuaries, New Brunswick		Brunswick, Miramichi Bay	
(Scott, D. B., et al.)	7 1566	(Reinson, G. E.)	2524

	SUBJE	CT INDEX	2985
Environmental geology		Domes, deformation, structural a	nalysis,
Geologic hazards		zoning, diapirism, models, mas	
Floods, effects, geomorphology, fluvial		migmatites, gneisses, France, S	
features, Ontario, Grand Riv		Massif	
(Gardner, J. S.)	10 2294	(Brun, JP.)	8 1697
Microearthquakes, surveys, Qu		Foraminifera	
Malbaie	ieuec, La	Faunal studies	
(Leblanc, G., et al.)	12 2778	Holocene, modern, New Brunsw	rick.
Surveys	12 2//0	assemblages, benthonic taxa, d	
•	on Johns	estuaries, zoning, ecology, fau	
Nitrogen, carbon, organic carb	on, lakes,	taxonomy	1100,
eutrophication, Great Lakes	10 0400	(Scott, D. B., et al.)	7 1566
(Kemp, A. L. W., et al.)	10 2402	Fractures	, 2000
Rivers, lakes, suspended mater		Style	
nutrients, loading, monitorin		Joints, patterns, joint sets, orient	tation
Ontario, south, Lake Ontario		regional, local, discrimination,	
(Ongley, E. D., et al.)	7 1555	Alberta	Canada,
Eocene		(Currie, J. B., et al.)	6 1211
Canada		France	0 1211
British Columbia, Coast plutor			
paleomagnetism, tectonics, p	late	Stratigraphy Triassic, Bunter, paleomagnetism	n northeast
tectonics, intrusions		Vosges	ii, iioi tiicast,
(Symons, D. T. A.)	6 1246	(Biquand, D.)	7 1490
British Columbia, Insecta, mid	dle Eocene	Structural geology	1 1490
(Wilson, M. V. H.)	5 1139		northweet
British Columbia, paleoecology	7,	Structural analysis, deformation, northwest, Armorican Massif, Saint-Malo Massif	
paleoclimatology, Pisces, co	prolites, algae,		8 1697
diatoms, Insecta, Plantae, se	dimentary	(Brun, JP.)	8 1097
structures, varves, middle E		Geochemistry	
(Wilson, M. V. H.)	5 953	Methods	
Faults		Statistical methods, dynamic cli	-
Displacements		method, automatic data proce	
Normal faults, aerial photogra-	phy. Quebec.	applications, Canada, Quebec	,
Ungava	, (	Monteregian Hills	10 2222
(Grenon, A., et al.)	3 500	(Lefebvre, D., et al.)	10 2232
Strike-slip faults, traces, length		Surveys	
interpretation, mathematical		Nitrogen, carbon, organic carbo	
(Cruden, D., et al.)	3 508	sediments, lakes, Great Lake	
Thrust faults, block structures,		(Kemp, A. L. W., et al.)	10 2402
Nova Scotia	neid studies,	Geochronology	
(Currie, K. L.)	12 2937	Lichenometry	
Folds	12 2937	Moraines, Rhizocarpon geograph	
Mechanics		growth, Holocene, Little Ice	
	hans some	Alberta, Jasper National Par	
Banded structures, rheology, s		(Luckman, B. H.)	8 1809
similar folds, theoretical stu		Methods	
(Cobbold, P. R.)	11 2510	Tephrochronology, paleomagne	
Style		track, volcanic glass, zircon,	
Anticlines, synclines, fold axe		Wascana Creek Ash, Saskate	
orientation, plunging, interf		(Westgate, J. A., et al.)	3 357
patterns, structural analysis	Ontario,	Paleomagnetism	
Timmins		Excursions, inclination, sedime	
(Davies, J. F.)	5 1046	Quaternary, Arctic Ocean, I	
		A 1111 A 11	0 2007
Antiform folds, reconstruction		(Vilks, G., et al.)	9 2007
Antiform folds, reconstruction paleomagnetism, Ordovicia		(Vilks, G., et al.) Reversals, magnetostratigraphy	
Antiform folds, reconstruction			y, marker

(Armon, J. W., et al.)

Sedimentation, shorelines, estuaries, tides,

currents, barrier islands, New Brunswick,

Miramichi Bay Racemization (Reinson, G. E.) 11 2524 Shells, Quaternary, Northwest Territories Solution, terrain, carbonate rocks, 12 2824 (Miller, G. H., et al.) limestone, tundra, vegetation, effects, **Tephrochronology** environment, arctic, surface water, Eruptions, Washington, Mount St. Helens, tephra, Holocene, Alberta, British ground water, geochemistry, field studies, Columbia permafrost, solution features, Northwest 11 2593 Territories, Ellesmere Island (Westgate, J. A.) (Woo, M.-K., et al.) Geomorphology 4 571 Fluvial features Weathering, topography, gabbro, Canada, Rivers, braided streams, channels, bars, Quebec, Mount Megantic (Clement, P., et al.) 10 2262 stratification, gravel, sedimentation, Shore features evolution, hydrodynamics, monitoring, 1976, British Columbia, Kicking Horse Beaches, topography, processes, sedimentation, longshore currents, (Hein, F. J., et al.) 4 562 nearshore environment, ocean waves, Rivers, channels, floodplains, valleys, floods, storms, profiles, data, 1974, Nova Scotia, effects, 1974, Canada, Ontario, Grand Martinique Beach (Keeley, J. R.) 8 1906 River (Gardner, J. S.) 10 2294 Solution features Frost action Karst, caves, ice, permafrost, discontinuous, Beaches, sediments, environment, tidal paleoclimatology, Holocene, Canada, Northwest Territories, South Nahanni environment, temperature, measurement, data, Canada, Quebec, Rimouski, Rocher-River (Schroeder, J.) 5 1179 Blanc (Bourget, E.) 8 1732 Geophysical methods Electrical methods Ice-push features, boulder pavements, boulder ridges, stability, field studies, Applications, permafrost, patterned ground, 1966-1975, Canada, Northwest polygons, mapping, techniques, resistivity, Territories, Mackenzie River ground, Ontario, southwest (Greenhouse, J. P., et al.) 3 496 (Mackay, J. R., et al.) 10 2213 Electromagnetic methods Permafrost, continuous, discontinuous, Applications, permafrost, experimental mounds, hummocks, genesis, dynamics, studies, electrical conductivity, dielectric freezing, thawing, macromorphology, constant, measurement, in situ, micromorphology, soils, Canada, north Northwest Territories, Tuktoyaktuk (Crampton, C. B.) 4 639 Peninsula Impact features Meteor craters, interpretation, topography, (Wong, J., et al.) Applications, permafrost, theoretical studies structure, petrography, Saskatchewan, Gow Lake (Sinha, A. K.) 10 2388 8 1788 Magnetotelluric methods (Thomas, M. D., et al.) Landform evolution Interpretation, induction, Canada, Quebec Plateaus, valleys, weathering, soils, (Bailey, R. C., et al.) 10 2426 glaciation, glacial features, Quaternary, Methods Newfoundland Applications, permafrost, techniques, (Brookes, I. A.) 9 2101 evaluation, seismic methods, refraction, Mass movements electrical methods, resistivity, Landslides, debris slides, glaciers, melting, radioactivity methods, well-logging, British Columbia, Pylon Peak gamma-gamma, Canada, Northwest (Mokievsky-Zubok, O.) 11 2657 Territories, Arctic region (Scott, W. J., et al.) 1 117 Sedimentation, longshore currents, barrier Interpretation, magnetic field, induction, islands, Prince Edward Island electrical conductivity, anomalies,

11 2429

structure, inhomogeneity, seismicity,

methods, magnetotelluric methods.

techniques, ground, sounding, magnetic

	SUBJECT	INDEX	2707
automatic data processing, C	anada,	continental	
Quebec		(MacLeod, N. S., et al)	2 223
(Honkura, Y., et al.)	2 256	Geosynclines	
Seismic methods		Evolution	
Instruments, deep seismic soun	ding, marine	Cordilleran Geosyncline, volcanie	c rocks,
methods, systems, automatic data		sedimentary rocks, lithology, a	
processing, interpretation, te		Paleozoic, Canada, Canadian C	
examples	, ,	(Monger, J. W. H.)	8 1832
(Clowes, R. M.)	6 1276	East Coast Geosyncline, Mesozo	
ophysical surveys		Cenozoic, Maritime Provinces	,
Gravity surveys		(King, L. H., et al.)	11 2553
Canada, Quebec, Labrador Tro	ugh, ground.	Glacial geology	11 2000
profiles, metamorphic rocks,		Glacial features	
Bouguer anomalies, structure		Eskers, biostratigraphy, Plantae,	reworking
Precambrian	,	absolute age, Pleistocene, Onto	
(Kearey, P.)	1 45		ario,
Canada, Quebec, Saguenay Val		Brampton Esker	3 426
Bouguer anomalies, crust, str		(Karrow, P. F., et al.)	
(Duncan, P. M., et al.)	2 145	Moraines, absolute age, Pleistoce	
Canada, Rocky Mountains, Bri		Newfoundland, Robinson's He	
Columbia, ground, profiles, t		(Brookes, I. A.)	9 2121
structure	i chiches,	Till, stratigraphic units, Pleistoce	
(Spence, G. D., et al.)	1 25	Wisconsinan, St. Joseph Till, C	Ontario,
Magnetic surveys	1 25	Lake Huron	0.01/0
Canada, Newfoundland, Appal	achians	(Broster, B. E., et al.)	9 2169
(Cochrane, N. A., et al.)	12 2858	Glaciation	
Remote sensing	12 2050	Deposition, outwash, lithostratig	
Canada, Northwest Territories	Arctic	Pleistocene, Wisconsinan, Brit	ish
Archipelago, radar methods,		Columbia, southwest	
sounding, ice caps, dynamics		(Armstrong, J. E., et al.)	7 1471
(Koerner, R. M.)	12 2697	Deposition, outwash, subaqueous	s, mass
Seismic surveys	12 2097	movements, lithofacies, sedim	entary
Arctic Ocean, Baffin Bay, Lan	caster Sound	structures, Quaternary, upper	Quaternary,
refraction methods, continer		Ontario, Ottawa region	
crust, oceanic type, continer	-	(Rust, B. R.)	2 175
boundary	itai type,	Erosion, glacial features, morain	es, till,
(Jackson, H. R., et al.)	9 1991	landform evolution, Pleistocer	ne,
Canada, Rocky Mountains, ref		Wisconsinan, Newfoundland	
seismic sounding, explosions		(Brookes, I. A.)	9 2101
mantle, structure	, crust, upper	Extent, erosion, ice movement,	felsenmeer,
(Mereu, R. F., et al.)	2 196	tors, roches moutonnees, Nor	
Canada, Maritime Provinces, n		Territories, Baffin Island	
reflection methods, paleoged		(Sugden, D. E., et al.)	12 2817
geosynclines, continental ma		Extent, ice sheets, margins, Lau	rentide ice
(King, L. H., et al.)	11 2553	sheet, Pleistocene, Alberta	
Surveys	11 2333	(Stalker, A. M.)	11 2614
Canada, New Brunswick, Mira	michi Ray	Glaciers	
seismic surveys, acoustical s		Ice movement, moraines, lichen	ometry.
profiles	urveys,	Holocene, Little Ice Age, Alt	
(Howells, K., et al.)	12 2909	National Park, Angel Glacier	
North America, British Colum		Glacier	,
Washington, Juan de Fuca S		(Luckman, B. H.)	8 1809
magnetic surveys, gravity su		Ice movement, velocity, morain	
marine, magnetic anomalies		alpine-type, observations, Bri	
anomalies, interpretation, m		Columbia, Berendon Glacier	
faults, fault zones, crust, occ	aps, structure,	(Eyles, N., et al.)	12 2807
amuno, munt zontes, crust, oci	vertite,	(2) 100, 14., 61 101)	2007

Melting, debris slides, cirques, geologic		chemical analysis, techniques	
hazards, British Columbia, Pylon Peak		(Krupka, K. M., et al.)	12 2760
(,,,	2657	Graptolithina	
Remote sensing, ice, thickness, ice caps,		Biogeography	
dynamics, Quaternary, Northwest		Occurrence, taxonomy, Ordovicia	n, Yukon
Territories, Arctic Archipelago	0.605	Territory	
(,,	2 2697	(Lenz, A. C.)	8 1946
Periglacial features		Biostratigraphy	
Extinct lakes, extent, levels, sediments	-	Ordovician, Dunnage Melange,	
mineralogy, Pleistocene, Saskatchew	van,	Newfoundland	
east, Lake Agassiz	1006	(Hibbard, J. P., et al.)	5 1176
(,,	1286	Diplograptina	
Ice, caves, karst, permafrost, discontin		Ordovician, Quebec, occurrence,	
paleoclimatology, Holocene, Northy	west	morphology, biostratigraphy, zo	
Territories, South Nahanni River	E 1170	(Walters, M.)	5 932
, , ,	5 1179	Great Lakes	
Patterned ground, polygons, fossil ice-		Geochemistry	
casts, permafrost, mapping, electrica	81	Metals, sediments, Lake Superior	, Thunder
methods, resistivity, ground, aerial		Bay, Ontario	
photography, Ontario, southwest	3 496	(Mothersill, J. S.)	5 1054
(Greenhouse, J. P., et al.)	3 490	Nitrogen, carbon, Lake Superior,	
Permafrost, extent, thickness, depth, properties, experimental studies, fie	14	Huron, Lake Saint Clair, Lake	Erie, Lake
	Iu	Ontario	
studies, geophysical methods, well- logging, Quebec, Schefferville		(Kemp, A. L. W., et al.)	10 2402
	3 431	Ground water	
(Seguin, M. K.) Permafrost, glaciotectonic structures,	3 431	Age	
postglacial environment, Pleistocen		Canada, Quebec, Eaton River basin, tracer	
Newfoundland	С,	experiments, radioactive isotop	es, carbon,
	2 2797	C-14, tritium	
Permafrost, mounds, hummocks, dyna		(Simard, G.)	10 2325
Canada, north	annes,	Heat flow	
(Crampton, C. B.)	4 639	Canada	
Permafrost, patterned ground, ice-wee		Ontario, Canadian Shield, measu	rement,
polygons, Northwest Territories, B		lakes, corrections, theoretical s	tudies
Island	WIIKS	(Beck, A. E., et al.)	2 332
	1 2462	Holocene	
Permafrost, thickness, well-logging,	1 2402	Arctic Ocean	
techniques, Canada, north		Beaufort Sea, changes of level, N	follusca,
(Hnatiuk, J., et al.)	3 375	paleoecology, ecology, upper I	Holocene
Pingos, pulsating, uplifts, subsidence,		(Wagner, F. J. E.)	9 2013
mechanism, permafrost, water, exp		Canada	
pore pressure, increase, field studie		Alberta, Calgary, sedimentation,	alluviation
experimental studies, Canada, Nor		(Osborn, G. D.)	7 1515
Territories, Tuktoyaktuk Peninsula		Alberta, Jasper National Park,	
(Mackay, J. R.)	2 209	paleoclimatology, glaciation,	
Gold		geochronology, lichenometry,	upper
Abundance		Holocene, Little Ice Age	
Igneous rocks, basalt, ultramafic family,		(Luckman, B. H.)	8 1809
variations, depletion, leaching, data,		Alberta, Mammalia, Ungulata, lo	wer
activation analysis, cores, Atlantic		Holocene	
North Atlantic		(Shackleton, D. M., et al.)	5 963
(Crocket, J. H., et al.)	4 777	Northwest Territories, absolute a	
Canada		periglacial features, sedimenta	-
Quebec, ore deposits, veins, quartz,	fluid	vegetation, Plantae, upper Hol	
inclusions, sodium, potassium, ratios,		(Pissart, A., et al.)	11 2462

	SUBJEC	T INDEX	298
North America		Idaho	
Canada, Alberta, British Columbia, United		Petrology	
States, Washington, tephro	chronology,	Igneous rocks, volcanic rocks, lav	va,
upper Holocene		Quaternary, Snake River plain	
(Westgate, J. A.)	11 2593	(Stout, M. Z., et al.)	9 2140
Hydrogen		Igneous rocks	
Geochemistry		Basalt family	
Ore deposits, uranium		Basalt, breccia, mineral composit	ion, data,
(Levinson, A. A.)	11 2679	alteration, weathering, submari	ne, cores,
Hydrology		Atlantic Ocean, North Atlanti	C
Limnology		(Scarfe, C. M., et al.)	4 903
Canada, Ontario, Great Lake	s, Lake	Basalt, geochemistry, genesis, ma	agmas,
Superior, Thunder Bay, me		crust, oceanic, Layer 2, data, o	cores,
abundance, data, chemical		Atlantic Ocean, North Atlanti	c
techniques		(Dmitriev, L., et al.)	4 899
(Mothersill, J. S.)	5 1054	Basalt, geochemistry, trace element	ents, rare
Europe, Sweden, Lake Vaner	, waves,	earths, review, genesis, data, c	ores,
energy, dynamics, sedimen		Atlantic Ocean, North Atlanti	ic
geochemistry	,	(Lambert, R. St. J., et al.)	4 809
(Haakanson, L.)	3 397	Basalt, oceanic, electrical conduc	ctivity,
North America, Great Lakes		variations, partial melting, pha	ise
eutrophication, organic ma		equilibria, P-T conditions, exp	erimental
nitrogen, distribution, sedi		studies, cores, Atlantic Ocean	, North
(Kemp, A. L. W., et al.)	10 2402	Atlantic	
Rivers and streams		(Schloessin, H. H.)	4 756
Canada, British Columbia, Kicking Horse		Basalt, petrography, chemical co	mposition,
River, hydrodynamics, mo		mineral composition, genesis,	magmas,
sedimentation		alteration, weathering, submar	rine, data,
(Hein, F. J., et al.)	4 562	cores, Atlantic Ocean, North	Atlantic
Surveys		(Baragar, W. R. A., et al.)	4 837
Canada, Northwest Territori	es. Ellesmere	Basalt, petrography, composition	
Island, ground water, surfa		geochemistry, data, compariso	on, Atlantic
geochemistry, limestone, s		Ocean, North Atlantic, Deep	Sea Drilling
vegetation, effects	,	Project, FAMOUS	
(Woo, MK., et al.)	4 571	(Bryan, W. B., et al.)	4 875
Canada, Ontario, Great Lak		Basalt, petrography, mineral con	
Ontario, watersheds, river		alteration, weathering, subma	
suspended materials, nutrients, loading,		cores, Atlantic Ocean, North	
monitoring, data, environmental geology		(Andrews, A. J.)	4 911
(Ongley, E. D., et al.)	7 1555	Basalt, submarine, magnetic pro	-
Ichnofossils		data, crust, oceanic, cores, A	llantic
Occurrence		Ocean, North Atlantic	
Assemblages, paleoecology,		(Wayman, M. L., et al.)	4 656
paleobathymetry, marine,	shallow water.	Diabase, dikes, petrography, ge-	
Silurian, Chaleurs Group, Quebec, Gaspe		genesis, magmas, Precambria	
Peninsula	<b>C</b> ,	(Meyers, R. E., et al.)	12 2683
(Pickerill, R. K., et al.)	2 239	Diabase, geochemistry, trace el	ements,
Burrows, Silurian, Quebec,		dikes, Precambrian, Ontario (Dostal, J., et al.)	12 294
Arthropoda		Diabase, petrography, geochem	
(Pickerill, R. K., et al.)	12 2729	magnetic properties, paleoma	
Tubes, worms, cropping, alg		absolute age, data, Precambri	_
restriction, Cambrian, Ne		Grenville Front	un, Ontano,
(Edhorn, AS.)	5 1014	(Palmer, H. C., et al.)	8 186
		(1 miller) 11. C., C. UL)	0 100

Gabbro family Norite, burial, depth, estimation, paleomagnetism, contact, dikes, diabase, Precambrian, Ontario, Sudbury (Schwarz, E. J.) 1 82 Geochemistry Rare earths, patterns, anorthosite, mangerite, complexes, genesis, Precambrian, New York, Adirondack Mountains, Quebec (Seifert, K. E., et al.) 5 1033 Trace elements, metals, noble metals, palladium, iridium, gold, abundance, variations, depletion, alteration, weathering, submarine, leaching, data, ultramafic family, basalt, cores, Atlantic Ocean, North Atlantic (Crocket, J. H., et al.) 4 777 Granite-granodiorite family Quartz monzonite, geochemistry, textures, megacrysts, inclusions, plutons, genesis, data, Ontario, Barnum Lake Pluton 9 2157 (Kehlenbeck, M. M.) Plutonic Mafic composition, magnetic properties, magnetic susceptibility, paleomagnetism,

Mafic composition, magnetic properties, magnetic susceptibility, paleomagnetism, plate tectonics, Mesozoic, Tertiary, Canada, British Columbia, Coast Mountains
(Coles, R. L., et al.) 8 1753

**Properties** 

Magnetic properties, magnetic susceptibility, density, data, applications, geophysical methods, gravity methods, magnetic methods, structural complexes, Canada, New Brunswick, southeast (Gupta, V. K., et al.) 1 128

Pyroclastics and glasses

Basalt glass, mineral composition, sulfides, geochemistry, major elements, minor elements, data, cores, Atlantic Ocean, North Atlantic

(MacLean, W. H.) 4 674

Ultramafic family

Kimberlite, Iherzolite, xenoliths,
petrography, textures, genesis, geologic
barometry, geologic thermometry, mantle,
upper mantle, data, Canada, Northwest
Territories, Somerset Island
(Mitchell, R. H.)
6 1202

Ophiolite, complexes, cumulates, magmas, differentiation, cycles, classification, genesis, Paleozoic, Newfoundland, Bay of Islands
(Church, W. R., et al.) 5 1156

Ophiolite, cumulates, genesis, plate tectonics, crust, oceanic type, betts covetype, Canada, Quebec, south (Church, W. R.) 7 1668

Peridotite, alpine-type, harzburgite, dunite, textures, fabric, genesis, plate tectonics, lithosphere, oceanic, fragments, transport, mantle, Paleozoic, British Columbia (Ross, J. V.)

Volcanic

Basalt, komatiite, tholeiite, andesite, dacite, rhyolite, geochemistry, sulfur, rhyolite, statistical analysis, greenstone belts, Precambrian, Ontario (Naldrett, A. J., et al.) 4 539

Distribution, zoning, petrology, stratigraphy, Precambrian, Coldbrook Group, New Brunswick, south, Eastern volcanic belt, Central volcanic belt, Western volcanic belt

(Giles, P. S., et al.) 6 1263

Lava, gabbro, peridotite, spinifex texture, composition, cumulates, Precambrian, Ontario, Munro (Arndt, N. T.) 11 2620

Lava, petrography, mineral composition, chemical composition, data, genesis, magmas, basaltic composition, partial melting, mantle, Quaternary, Snake River Group, Idaho (Stout, M. Z., et al.) 9 2140

Lithostratigraphy, lithology, assemblages, distribution, nomenclature, Paleozoic, Canada, Canadian Cordillera (Monger, J. W. H.) 8 1832

**Inclusions** 

Fluid inclusions

Analysis, techniques, sample preparation, activation analysis, ore deposits, gold, Quebec

(Krupka, K. M., et al.) 12 2760

Xenoliths

Lherzolite, spinel lherzolite, garnet
lherzolite, host materials, kimberlite,
intrusions, diatremes, pyroxene,
coexisting, geologic barometry, geologic
thermometry, paleogeotherms, upper
mantle, Northwest Territories, Somerset
Island
(Mitchell, R. H.) 6 1202

Insecta

Coleoptera

Cenozoic, Northwest Territories, Arctic Archipelago, Alaska, biostratigraphy (Matthews, J. V., Jr.) 10 2339

	SUBJEC	CT INDEX	2991
Pleistocene, Wisconsinan, Ontar	rio.	Invertebrata	
paleoecology, habitat, diversity,		Faunal studies	
biogeography, paleoclimatology, faunal		Ordovician, Quebec, paleoecolog	y, marine
list		environment, benthonic taxa,	
(Ashworth, A. C.)	7 1625	biostratigraphy, zoning, teilzon	es, range,
Faunal studies	, 1023	faunal list, Mollusca, Bivalvia,	
Eocene, British Columbia, occur	rrence	Gastropoda, Brachiopoda, Bry	ozoa
collections, faunal list, paleoe		(Bretsky, P. W.)	7 1674
(Wilson, M. V. H.)	5 1139	Ireland	
ntrusions	5 1157	Structural geology	
Dikes		Tectonics, folds, Connemara	
Composition, patches, epidote-r	ich.	(Morris, W. A., et al.)	11 2601
alteration, metamorphism, but		Tectonophysics	
metasomatism, possibilities, C		Plate tectonics, west, South May	o Trough
Quebec, Matagami	allaua,	(Ryan, P. D., et al.)	11 2453
(Smith, R. E., et al.)	3 505	Iridium	
Dike swarms, petrology, geoche		Abundance	
genesis, Precambrian, Labrad	•	Igneous rocks, basalt, ultramafic	family,
(Meyers, R. E., et al.)	12 2683	variations, depletion, leaching,	
Geochemistry, paleomagnetism,		activation analysis, cores, Atla	
dike swarms, Precambrian, O		North Atlantic	
Grenville Front	mario,	(Crocket, J. H., et al.)	4 777
(Palmer, H. C., et al.)	8 1867	Iron	
Geochemistry, trace elements,		Geochemistry	
Precambrian, Ontario	anaouse,	Sedimentary rocks, iron formation	ons, banded,
(Dostal, J., et al.)	12 2941	genesis, lava, varioles, weather	
Magmas, cooling, rates, plagioc		Precambrian, Archean	
crystallization, grain size, and		(Brooks, C.)	3 511
basaltic andesite, theoretical		Isotopes	
Japan	31dd103, 113iu,	Argon	
(Ikeda, Y.)	8 1860	Ar-36, Ar-40/Ar-36, K-40/Ar-3	6, ratios,
Paleomagnetism, diabase, host rocks,		absolute age, experimental stu	idies,
contact, norite, burial, depth,		contamination, atmosphere, re	emoval
Precambrian, Ontario, Sudbu		(Hayatsu, A., et al.)	3 337
(Schwarz, E. J.)	1 82	Lead	
Petrology	1 02	Pb-206/Pb-204, Pb-207/Pb-204	, Pb-207/Pb-
Metamorphic rocks, igneous ro	cks. mafic.	206, Pb-208/Pb-204, Pb-208/	Pb-206,
ultramafic, acidic, genesis, m		analysis, data, galena, absolute age, U/Pb,	
differentiation, models, petro		interpretation, Precambrian, 6	Grenville
composition, geochemistry, data,		Province, Paleozoic, Ontario,	Quebec,
Precambrian, Saskatchewan,		south	
Flin Flon, Boundary Intrusio	ns .	(Fletcher, I. R., et al.)	1 56
(Syme, E. C., et al.)	3 444	Pb-206/Pb-204, Pb-207/Pb-204	, Pb-208/Pb-
Plutons		204, igneous rocks, cores, At	lantic
Age, absolute age, granitic, geo	chemistry.	Ocean, North Atlantic	
Paleozoic, Appalachians, Ne		(Yamaguchi, M., et al.)	4 785
(Bell, K., et al.)	3 456	Pb-206/Pb-204, Pb-207/Pb-204	, Pb-208/Pb-
Age, absolute age, Ordovician, New		204, U-238/Pb-204, ratios, is	ochrons,
Brunswick, north-central		evolution, models, statistical	analysis,
(Fyffe, L. R., et al.)	7 1687	data, cores, basalt, Atlantic C	Ocean, North
Petrology, quartz monzonite, g		Atlantic	
structure, petrography, textu		(Cumming, G. L.)	4 768
genesis, emplacement, syntee		Oxygen	
processes, metamorphism, co		O-18/O-16, ratios, analysis, da	ta, bedrock,
Canada, Ontario, Barnum La		metamorphic rocks, metased	
(Kehlenbeck, M. M.)	9 2157	igneous rocks, plutonic, gran	

Precambrian, Canadian Shiel	d, Superior	Absolute age, Precambrian, Na	in Massif,
Province, Ontario		Kaumajet Mountains	
(Shieh, YN., et al.)	5 927	(Barton, J. M., Jr.)	7 1635
O-18/O-16, ratios, depletion, g		Petrology	
igneous rocks, basalt, plutonic, alteration,		Intrusions, dikes, igneous rocks	
weathering, enrichment, data, cores,		Precambrian, central, Harp I	Lake
Atlantic Ocean, North Atlan		Complex	
(Muehlenbachs, K.)	4 771	(Meyers, R. E., et al.)	12 2683
Ratios		Stratigraphy	
O-18/O-16, C-13/C-12, shells,		Precambrian, paleomagnetism,	Harp Lake
paleoclimatology, temperatur	e,	Complex	
Cretaceous, Saskatchewan		(Irving, E., et al.)	6 1187
(Forester, R. W., et al.)	9 2086	Lava	
Sulfur		Petrology	
S-34/S-32, evaporites, stratigra		Lava flows, differentiation, spin	nifex texture,
Cambrian, Devonian, Northy	vest	layered flows, thickness, nor	nenclature,
Territories		gabbro, peridotite, Precambr	ian, Ontario,
(Van Everdingen, R. O., et a	-	Fred's Flow, Theo's Flow	
S-34/S-32, ratios, analysis, data		(Arndt, N. T.)	11 2620
minerals, sulfides, sulfates, ig		Petrography, composition, geo-	chemistry,
basalt, sediments, cores, Atla	intic Ocean,	lava flows, genesis, magmas,	basaltic
North Atlantic		composition, Quaternary, Id	
(Krouse, H. R., et al.)	4 787	River plain	
Tracer experiments		(Stout, M. Z., et al.)	9 2140
C-14, tritium, ground water, ag	e, data,	Textures, varioles, genesis, ma	gmas,
Quebec, Eaton River basin		quenching, immiscibility, Pre-	
(Simard, G.)	10 2325	Archean	
Japan		(Cawthorn, R. G.)	9 2178
Petrology	,	Textures, varioles, genesis, ma	gmas,
Intrusions, dikes, magmas, Hor		quenching, immiscibility, Pro	-
Abukuma Mountains, Iritono		Archean	
(Ikeda, Y.) Jurassic	8 1860	(Gelinas, L., et al.)	12 2945
		Textures, varioles, genesis, ma	gmas,
Canada	leanelan.	quenching, immiscibility, Pr	
Ontario, Moose River basin, pa		Archean	
biostratigraphy, palynomorph		(Hughes, C. J., et al.)	1 137
sedimentation, middle Jurass		Lead	
(Norris, G.)	2 153	Canada	
Yukon Territory, north, sedime		Northwest Territories, Arctic	Archipelago.
sandstone, biostratigraphy, N		Cornwallis District, ore dep	
Cerebold H et al.		zinc deposits, mineralization	
(Frebold, H., et al.)  Paleontology	1 89	valley-type, genesis, control	
Reptilia, Ichthyopterygia		(Kerr, J. W.)	6 1402
(Johnson, R.)	8 1916	Ontario, Thunder Bay District	
Labrador	0 1910	veins, ore minerals, geocher	-
Geochemistry		elements, minor elements, is	
Trace elements, rare earths, iro	n formations	mineralization, controls, Pre	
	,	Aphebian, Sibley Group	Cambrian,
Sokoman Iron Formation, L. Trough	abrador	(Franklin, J. M., et al.)	9 1963
	7 1500		9 1903
(Fryer, B. J.)	7 1598	Geochemistry	mental ration
Absolute age Precambrian ce	ntral Ded	Igneous rocks, abundance, ele	
Absolute age, Precambrian, cer	nual, Red	isotopes, data, cores, Atlant North Atlantic	ic Ocean,
Wine alkaline complex	9 1040		4 707
(Blaxland, A. B., et al.)	8 1940	(Yamaguchi, M., et al.)	4 785

Isotopes		Ungulata	
Pb-206/Pb-204, Pb-207/Pb-204, Pb-208/Pb-		Holocene, Alberta, occurrence, bones,	
204, U-238/Pb-204, isochrons, evolution,		skulls, teeth, antlers, morphol	ogy,
models, statistical analysis, igneous rocks, basalt, cores, Atlantic Ocean, North		biometry, data, comparison, r	
		modern, taxonomy, Bison occ	
Atlantic	. 101111	Cervus elaphus nelsoni	•
(Cumming, G. L.)	4 768	(Shackleton, D. M., et al.)	5 963
Ratios, ore deposits, galena, abs		Manitoba	
interpretation, Precambrian, C		Petrology	
Province, Paleozoic, Ontario,		Intrusions, Precambrian, Flin F.	lon.
south	Quebec,	Boundary Intrusions	.011,
(Fletcher, I. R., et al.)	1 56	(Syme, E. C., et al.)	3 444
lagmas	1 30	Mantle	3 111
Differentiation		Canada	
	a arralas	British Columbia, structure, low	-velocity
Ophiolite, complexes, cumulates Paleozoic, Newfoundland, Ba		zones, elastic waves	-velocity
	•	(Wickens, A. J.)	5 1100
(Church, W. R., et al.)	5 1156	Canadian Shield, upper mantle,	
Quenching, liquids, immiscibility			low-velocity
varioles, Precambrian, Arches		zones	11 2620
(Cawthorn, R. G.)	9 2178	(Hall, D. H.)	11 2638
Quenching, liquids, immiscibility		Rocky Mountains, upper mantl	e, structure,
varioles, Precambrian, Arches		deep seismic sounding	2 106
(Gelinas, L., et al.)	12 2945	(Mereu, R. F., et al.)	2 196
Quenching, liquids, immiscibility, lava,		Maps	
varioles, Precambrian, Arches		Cartography	1000
(Hughes, C. J., et al.)	1 137	Magnetic field, charts, Canada,	
Evolution		(Dawson, E., et al.)	3 477
Magma chambers, mid-ocean ridges,		Patterned ground, polygons, pe	
Atlantic Ocean, North Atlant		electrical methods, resistivity	
(Bryan, W. B., et al.)	4 875	aerial photography, Ontario,	
Genesis		(Greenhouse, J. P., et al.)	3 496
Magma chambers, mid-ocean ri		North America	
Atlantic Ocean, North Atlant		Canada, British Columbia, Uni	
(Dmitriev, L., et al.)	4 899	Washington, Juan de Fuca S	
Geochemistry		Bouguer anomalies, magnetic	
Dikes, Precambrian, Labrador		(MacLeod, N. S., et al.)	2 223
(Meyers, R. E., et al.)	12 2683	Maritime Provinces	
Temperature		Geophysical surveys	
Cooling, rates, plagioclase, crys	tallization,	Seismic surveys, Scotian Shelf,	Grand
grain size, dikes, basaltic and	esite,	Banks, Newfoundland Shelf,	Labrador
theoretical studies, Japan		Shelf	
(Ikeda, Y.)	8 1860	(King, L. H., et al.)	11 2553
fammalia		Mathematical geology	
Artiodactyla		Methods	
Pleistocene, Wisconsinan, Ontario,		Statistical methods, automatic	data
occurrence, bones, biometry,	Ovibos	processing, graphic display,	structural
moschatus		analysis, petrofabrics, prefer	red
(Churcher, C. S., et al.)	2 326	orientation, patterns, contou	
Insectivora		(Starkey, J.)	2 268
Cretaceous, North America, mo	orphology.	Statistical methods, multivaria	te analysis,
dentition, maxilla, teeth, bion		cluster analysis, dynamic clu	
evolution, phylogeny, affinition		method, automatic data proc	
Gypsonictops hypoconus		geochemistry, patterns	
(Fox, R. C.)	8 1823	(Lefebvre, D., et al.)	10 2232

Mesozoic	Metaigneous	
Asia	Alkalic composition, alkali basalt, gabbro,	
Japan, orogeny, cycles	composition, geochemistry, phase	
(Matsumoto, T.) 4 551	equilibria, data, field studies, allochthons,	
Atlantic Ocean	Paleozoic, Cambrian, Ordovician,	
Scotian Shelf, Georges Bank,	Newfoundland, Hare Bay	
lithostratigraphy, correlation, seismic	(Jamieson, R. A.) 3 346	
surveys	Metagabbro-norite, petrography, textures,	
(Wade, J. A.) 10 2274	fabric, composition, metamorphism,	
Canada	recrystallization, data, cores, Atlantic	
British Columbia, absolute age, intrusions,	Ocean, North Atlantic	
metamorphism, Triassic, Jurassic,	(Helmstaedt, H., et al.) 4 886	
Cretaceous	Metasedimentary	
(Pigage, L. C.) 7 1690		
British Columbia, central, tectonics, plate	Composition, heavy minerals, tourmaline,	
tectonics, metamorphic rocks, upper	boron, applications, metallogeny, mineral	
	exploration, Precambrian, Aldridge	
Triassic, lower Jurassic	Formation, British Columbia, Canadian	
(Paterson, I. A.) 6 1324	Cordillera	
British Columbia, Coast Mountains,	(Ethier, V. G., et al.) 10 2348	
paleomagnetism, intrusions, Jurassic,	Iron formations, mineral assemblages,	
Cretaceous	hornblende, grunerite, garnet, coexisting	
(Symons, D. T. A.) 9 2127	minerals, chemical composition, iron,	
Canadian Cordillera, paleogeography,	magnesium, ratios, data, electron probe	
sedimentary basins, tectonics	spectra, metamorphism, grade,	
(Eisbacher, G. H.) 10 2414	Precambrian, Archean, Northwest	
Canadian Cordillera, plate tectonics,	Territories, Itchen Lake	
igneous activity	(Bostock, H. H.) 8 1740	
(Griffiths, J. R.) 7 1611		
Metals	Lithostratigraphy, nappes, Precambrian,	
Abundance	Cambrian, British Columbia	
Sediments, lakes, chemical analysis,	(Hoy, T.) 10 2301	
techniques, data, iron, manganese, nickel,	Metavolcanic	
copper, cobalt, chromium, zinc, Great	Geochemistry, lead-zinc deposits,	
Lakes, Lake Superior	mineralization, Precambrian, Quebec	
(Mothersill, J. S.) 5 1054	(Stamatelopoulou-Seymour, K., et al.)	
Canada	11 2440	
Quebec, ore deposits, sulfides, genesis,	Komatiite, basaltic composition, lava, pillow	
processes, metavolcanic rocks,	lava, greenstone, petrography, textures,	
	chemical composition, ultramafic	
Precambrian	composition, calc-alkalic composition,	
(Stamatelopoulou-Seymour, K., et al.)	affinities, field studies, data, Precambrian,	
11 2440	Newton Lake Formation, Minnesota,	
Metamorphic rocks	Vermilion District	
Distribution	(Green, J. C., et al.) 10 2181	
Schist, gneiss, metamorphic belts, boundary,		
Precambrian, Ontario, northwest, Quetico	Lava, textures, variolitic texture, magmas,	
Belt, Wabigoon Belt	quenching, immiscibility, interpretation,	
(Blackburn, C. E., et al.) 8 1959	Precambrian, Archean, Ontario, Quebec,	
Gneisses	Abitibi Belt	
Alkalic composition, complexes,	(Cawthorn, R. G.) 9 2178	
petrography, textures, mineral	Lava, textures, variolitic texture, magmas,	
assemblages, modal analysis, chemical	quenching, immiscibility, interpretation,	
composition, data, genesis,	Precambrian, Quebec, Ontario, Abitibi	
metamorphism, metasomatism,	Belt	
Precambrian, Ontario, Grenville Province,	(Gelinas, L., et al.) 12 2945	
Bigwood Complex, Blue Mountain	Mylonites	
Complex	Textures, petrofabrics, deformation, strain,	
(Duke, N. A., et al.) 4 515	Precambrian, Grenville Front, Canada,	
(	recommendant, Orenvine Pront, Canada,	

	SUBJEC	CT INDEX	2995
Ontario		metamorphism, shock	
(Themistocleous, S. G., et al.)	8 1708	(Thomas, M. D., et al.)	8 1788
Occurrence		Michigan	
Metaigneous rocks, metasediments	ary rocks,	Stratigraphy	
ophiolite, melange, genesis, plat		Precambrian, paleomagnetism,	Upper
tectonics, Precambrian, Cambria		Peninsula, Ontonagon Count	y, Gogebic
Ordovician, Fleur de Lys Super		County	
Appalachians, Newfoundland		(Henry, S. G., et al.)	5 1128
(Williams, H.)	5 987	Mineral deposits, genesis	
Schists		Controls	
Mica schist, magnetic susceptibilit	y, density,	Geochemical controls, paleogeo	ographic
data, applications, gravity meth-	ods,	controls, lead-zinc deposits, l	barite,
magnetic methods, structural co	mplexes,	Precambrian, Ontario, Thunc	ler Bay
New Brunswick, southeast		District	
(Gupta, V. K., et al.)	1 128	(Franklin, J. M., et al.)	9 1963
Pelitic schist, textures, petrofabric	S,	Stratigraphic controls, structura	al controls,
minerals, muscovite, crystals, si	ze, shape,	tectonics, lead-zinc deposits,	mississippi
preferred orientation, statistical		valley-type, Northwest Terri	tories, Arctic
metamorphism, grade, Precamb		Archipelago, Cornwallis Dist	
Ontario, east		(Kerr, J. W.)	6 1402
(Rivers, T., et al.)	2 185	Processes	
Schist, textures, fabric, structural	analysis,	Exhalative processes, volcanism	n, lead-zinc
metamorphism, amphibolite fac		deposits, copper, gold, Queb	ec
Silurian, New Brunswick, west-		(Stamatelopoulou-Seymour,	K., et al.)
(O'Brien, B. H.)	8 1796		11 2440
Textures		Uranium	
Fabric, patterns, classification, L,	S,	Environment, reducing agents,	hydrogen,
applications, structural analysis,	field	uraninite	
studies, Canada, Ontario		(Levinson, A. A.)	11 2679
(Schwerdtner, W. M., et al.)	5 1021	Mineral exploration	
Metamorphism		Ore guides	
Grade		Hydrogen, ore deposits, uraniu	ım
Prograde, indicators, muscovite, o	crystals,	(Levinson, A. A.)	11 2679
size, shape, preferred orientation	n,	Tourmaline, British Columbia,	Canadian
statistical analysis, structural as	nalysis,	Cordillera	
deformation, recrystallization,	pelitic	(Ethier, V. G., et al.)	10 2348
schist, Precambrian, Ontario, e	ast	Mineralogy	
(Rivers, T., et al.)	2 185	Instruments	
P-T conditions		Hoods, fumes, controls, liquid	s, toxicity,
Mineral assemblages, tectonics, p	late	minerals, separation	
tectonics, fault zones, Triassic,	Jurassic,	(Johnson, W. M., et al.)	10 2422
British Columbia, central		Minerals	
(Paterson, I. A.)	6 1324	Chain silicates, pyroxene group	
Meteor craters		Pyroxene, coexisting materials	s, chemical
Canada		analysis, xenoliths, lherzolit	e, kimberlite,
Quebec, Charlevoix Structure, m	orphology,	Northwest Territories, Som-	erset Island
zoning, metamorphism, deform		(Mitchell, R. H.)	6 1202
shock, minerals, plagioclase, m	osaicism,	Framework silicates, feldspar grou	p
experimental studies, X-ray dis	ffraction	Plagioclase, crystal growth, gr	rain size,
analysis		magmas, cooling, dikes, ign	eous rocks,
(Walawender, M. J.)	1 74	Japan	
Saskatchewan, Gow Lake, interp	retation,	(Ikeda, Y.)	8 1860
structure, gravity anomalies, n		Oxides	
anomalies, country rocks, igne		Hematite, goethite, spectra, N	Angehauer
	ous rocks,	riemanie, goennie, specia, n	10330auci,
granite, metamorphic rocks, gr		standard materials, soils, C	

Ring silicates		Arctic Ocean, Beaufort Sea		
Tourmaline, genesis, occurrence		(Wagner, F. J. E.)	9 2013	
metasedimentary rocks, appli	ications, ore	Marine environment, glacial en	Marine environment, glacial environment,	
guides, ore deposits, metals,	sulfides,	postglacial environment, faunal list,		
exploration, British Columbia	a, Canadian	Pleistocene, Nova Scotia		
Cordillera		(Wagner, F. J. E.)	6 1305	
(Ethier, V. G., et al.)	10 2348	Montana		
Silicates		Stratigraphy		
Hornblende, grunerite, cummin	gtonite.	Precambrian, paleomagnetism,	northwest.	
garnet, coexisting minerals, o		Glacier National Park	1011111101,	
composition, iron, magnesium		(Vitorello, I., et al.)	1 67	
metamorphic rocks, iron form		Morocco	1 0	
metamorphism, grade, Preca		Geochronology		
Archean, Northwest Territor		Absolute age, Precambrian, Car	mbrian Anti	
Lake	,		morian, Anu	
(Bostock, H. H.)	8 1740	Atlas, Jbel Boho	10 077	
Sulfides	0 1740	(Ducrot, J., et al.)	12 2771	
Pyrite, chalcopyrite, pentlandit	e pyrrhotite	New Brunswick		
chemical analysis, occurrence	e globules	Geochronology		
basalt glass, submarine, core		Absolute age, Ordovician, nort		
Ocean, North Atlantic	s, Atlantic	(Fyffe, L. R., et al.)	7 168	
	4 674	Geomorphology		
(MacLean, W. H.)	4 674	Processes, Miramichi Bay		
Minnesota		(Reinson, G. E.)	11 252	
Petrology		Geophysical surveys		
Metamorphic rocks, metavolca		Surveys, Miramichi Bay		
Precambrian, Newton Lake		(Howells, K., et al.)	12 290	
Lake County, Saint Louis Co	ounty,	Paleontology		
Vermilion District, Ely		Foraminifera, Holocene, moder	n. Miramich	
(Green, J. C., et al.)	10 2181	Bay, Miramichi River	,	
Miocene		(Scott, D. B., et al.)	7 156	
Atlantic Ocean		Petrology	, 150	
North Atlantic, biostratigraphy	, zoning,	Igneous rocks, properties, meta	morphic	
algae, nannofossils		rocks, mica schist, southeast	-	
(Howe, R. C., et al.)	4 707	(Gupta, V. K., et al.)	1 12	
Mohorovicic discontinuity			1 12	
USSR		Stratigraphy		
Ukrainian Shield		Precambrian, Coldbrook Group		
(Krutikhovskaya, Z. A., et a	(L) 12 2718	Caledonia Highlands, Kingst		
Mollusca		(Giles, P. S., et al.)	6 126	
Bivalvia		Silurian, Charlo, Upsalquitch F	orks	
Quaternary, Northwest Territo	ories,	(Lee, H. J., et al.)	11 253	
biostratigraphy		Structural geology		
(Miller, G. H., et al.)	12 2824	Tectonics, structure, structural	analysis,	
Cephalopoda		west-central, Pokiok Pluton		
Cretaceous, Saskatchewan, she	ells, isotopes.	(O'Brien, B. H.)	8 179	
oxygen, carbon, ratios, paled		New York		
Ammonoidea	, commutorogy	Geochemistry		
(Forester, R. W., et al.)	9 2086	Rare earths, anorthosite, mang	erite.	
Faunal studies	9 2000	Franklin County, Essex Cou		
Jurassic, Yukon Territory, occ	HIFTONOO	Adirondack Mountains, Mo		
biostratigraphy, taxonomy,		Tupper Lake, Saranac Lake	unt maicy,	
			5 10	
Cephalopoda, Ammonoidea		(Seifert, K. E., et al.)	5 103	
(Frebold, H., et al.)	1 89	Seismology		
Paleoecology		Earthquakes, Lake Ontario, G	enesee	
Distribution, depth, paleobath	vmetry.	County		
statistical analysis, faunal lis		(Hashizume, M., et al.)	11 265	

Structural geology		Nitrogen	
Deformation, experimental studie	s,	Abundance	
Adirondack Mountains		Sediments, lakes, ratios, carbon, Gr	reat
(Seifert, K. E., et al.)	12 2706	Lakes	
lewfoundland		(Kemp, A. L. W., et al.)	10 2402
Geochronology		North America	
Absolute age, Ordovician, Burling	gton	Paleontology	
Peninsula		Echinodermata, Permian, Arctic re	_
(Mattinson, J. M.)	10 2316	Canada, Northwest Territories, E	Ellesmere
Absolute age, Paleozoic, east		Island, United States, Alaska	
(Bell, K., et al.)	3 456	(Broadhead, T. W., et al.)	5 1166
Absolute age, Pleistocene, west, I		Mammalia, Cretaceous	
Robinson's Head Moraine	ttoomson o,	(Fox, R. C.)	8 1823
(Brookes, I. A.)	9 2121	Stratigraphy	
Geomorphology	7 2121	Paleozoic, paleoecology, Alberta, J.	-
-		National Park, Miette Complex,	
Landform evolution, glacial geold		Lakes, Lake Huron, Manitoulin	
glaciation, southwest, Codroy l		New York, Jamesville, Onondag	
Anguille Mountains, Long Ran	ige	(Kobluk, D. R., et al.)	10 2226
Mountains		Tectonophysics	
(Brookes, I. A.)	9 2101	Plate tectonics, indicators, Great P	
Geophysical surveys		(Camfield, P. A., et al.)	6 1229
Magnetic surveys, Appalachians		Northwest Territories	
(Cochrane, N. A., et al.)	12 2858	Economic geology	***
Paleontology		Lead, zinc, Arctic Archipelago, Co	rnwallis
Ichnofossils, algae, Cambrian, eas	st	District, Cornwallis fold belt	
(Edhorn, AS.)	5 1014	(Kerr, J. W.)	6 1402
Porifera, Ordovician, west, Port	au Port	Engineering geology	
Peninsula		Materials, properties, Tuktoyaktuk	
(Rigby, J. K.)	11 2662	Peninsula, Involuted Hill	
Petrology		(Wong, J., et al.)	4 582
Igneous rocks, ophiolite, magmas		Geochemistry	
Paleozoic, west, Bay of Islands		Isotopes, sulfur, gypsum, District of	of
(Church, W. R., et al.)	5 1156	Mackenzie	
Metamorphic rocks, metaigneous		(Van Everdingen, R. O., et al.)	12 2790
west, Hare Bay	s, raicozoic,	Geochronology	
	3 346	Absolute age, Precambrian, Canad	
(Jamieson, R. A.)	3 340	Shield, Slave Province, Bear Pro	
Sedimentary petrology		(Frith, R., et al.)	6 1356
Sedimentary structures, environn		Absolute age, Precambrian, Distric	ct of
analysis, Pleistocene, north-cer	ntral,	Keewatin	10 2425
Birchy Bay		(Church, W. R.)	10 2425
(Eyles, N.)	12 2797	Absolute age, Quaternary, Macker	nzie
Stratigraphy		Mountains	11 0510
Ordovician, north-central, Bay o	f Exploits	(Harmon, R. S., et al.)	11 2543
(Hibbard, J. P., et al.)	5 1176	Geomorphology	
Paleozoic, Ordovician, Silurian,	Devonian,	Frost action, District of Mackenzi	ie,
paleogeography, biogeography	,	Mackenzie River	10 0010
Brachiopoda, Trilobita		(Mackay, J. R., et al.)	10 2213
(McKerrow, W. S., et al.)	3 488	Glacial geology, glaciation, Arctic	
Structural geology		Archipelago, Baffin Island, Cum	berland
Tectonics, evolution, Precambris	in.	Peninsula	10 0015
Cambrian, Ordovician, Appala		(Sugden, D. E., et al.)	12 2817
Burlington Peninsula		Glacial geology, periglacial feature	es,
(Williams, H.)	5 987	Tuktoyaktuk Peninsula	0.000
(** 111161113, 11.)	3 301	(Mackay, J. R.)	2 209

Processes, Arctic Archipelago, Ellesmere	Stratigraphy
Island, Vendom Fiord	Cenozoic, biostratigraphy, Arctic
(Woo, MK., et al.) 4 571	Archipelago, Meighen Island
Solution features, glacial geology, periglacial	(Matthews, J. V., Jr.) 10 2339
features, southwest, South Nahanni River	Ordovician, Arctic Archipelago, Baffin
(Schroeder, J.) 5 1179	Island
Geophysical surveys	(MacLean, B., et al.) 8 1925
Geophysical methods, Arctic region,	Precambrian, Proterozoic, Canadian Shield,
Tuktoyaktuk, Arctic Archipelago,	Canadian Cordillera, Mackenzie
Melville Island, Ellesmere Island, Arctic	Mountains, Amundsen Basin, Arctic
Ocean, Beaufort Sea	Archipelago, Banks Island, Victoria Island
(Scott, W. J., et al.) 1 117	(Young, G. M.) 8 1771
Remote sensing, Arctic Archipelago, Devon	Quaternary, paleoclimatology, District of
Island, Ellesmere Island, Axel Heiberg	Mackenzie, northwest
Island	(Delorme, L. D., et al.) 9 2029
(Koerner, R. M.) 12 269°	
Paleontology	
Echinodermata, Silurian, Arctic	geochronology, Arctic Archipelago, Baffin
Archipelago, Somerset Island	Island, Clyde Foreland
(Frest, T. J., et al.) 1 133	(Miller, G. H., et al.) 12 2824
Echinodermata, Silurian, Arctic	Shurian, paleogeography, innostratigraphy,
Archipelago, Somerset Island, Fury Point	biostratigraphy, Arctic Archipelago,
(Narbonne, G. M.) 9 216	Somerset Island
Trilobita, faunal studies, Silurian, Arctic	(Jones, B., et al.) 6 1427
Archipelago, Baillie-Hamilton Island	Structural geology
(Perry, D. G., et al.) 2 28	Tectonics, evolution, orogeny, Arctic
Petrology	Archipelago, Cornwallis fold belt
	(Kerr, J. W.) 6 1374
Inclusions, xenoliths, igneous rocks,	Nova Scotia
kimberlite, Arctic Archipelago, Somerset	Geomorphology
Island, Elwin Bay	Shore features, Martinique Beach
(Mitchell, R. H.) 6 120	(Keeley, J. R.) 8 1906
Metamorphic rocks, metasedimentary,	Oceanography
Precambrian, Archean, District of	Oceans, circulation, Martinique Beach
Mackenzie, Itchen Lake	(Vacley I D at al) 9 1907
(Bostock, H. H.) 8 174	Stratigraphy
Sedimentary petrology	Carboniferous, paleomagnetism, Minudie
Sedimentary rocks, breccia, sedimentary	Point
structures, Bathurst Inlet, Precambrian	(Dou I I ) 6 1116
(Cecile, M. P., et al.) 10 236	
Sedimentary rocks, coal, Cretaceous,	Pleistocene, paleoecology, paleoclimatology,
Tertiary, Eureka Sound Formation, Arcti	west, northeast, Cape Breton Island
Archipelago, Ellesmere Island, Axel	(Wagner, F. J. E.) 6 1305
Heiberg Island	Structural geology
(Bustin, R. M., et al.) 7 158	
Sedimentary rocks, lithofacies,	(Currie, K. L.) 12 2937
sedimentation, Precambrian, Proterozoic,	Ocean floors
Shaler Group, Arctic Archipelago,	Atlantic Ocean
Victoria Island	Scotian Shelf, Georges Bank, seismic
(Young, G. M., et al.) 10 224	surveys, lithostratigraphy, correlation
Sedimentation, Holocene, Arctic	(Wade, J. A.) 10 2274
Archipelago, Banks Island	Oceanography
(Pissart, A., et al.) 11 246	2 Symposia
Seismology	Deep Sea Drilling Project, Leg 37, Atlantic
Earthquakes, Arctic Archipelago, Sverdrup	Ocean, North Atlantic, Mid-Atlantic
Basin, Byam Martin Channel	Ridge

ceans, circulation		Lava, igneous rocks, peridotite, gabbro,	
Currents		Precambrian, Munro	11 2620
Longshore currents, beaches, patterns,		(Arndt, N. T.)	
variations, measurement, data, 1974	•	Metamorphic rocks, gneiss, Preca	
theoretical studies, models, ocean w	aves,	Grenville Province, Sudbury, Bi	
refraction, Atlantic Ocean, Canada,	Nova	Complex, Methven, Blue Moun	itain
Scotia, Martinique Beach		Complex	
(Keeley, J. R., et al.)	1897	(Duke, N. A., et al.)	4 515
Longshore currents, nearshore environ	ment,	Metamorphism, grade, metamorph	
beaches, topography, Atlantic Ocean	n,	pelitic schist, Precambrian, east	
Canada, Nova Scotia, Martinique B		(Rivers, T., et al.)	2 185
	1906	Sedimentary petrology	
Intario		Sedimentary rocks, conglomerate,	,
Economic geology		Precambrian, Archean, northwe	
Lead, zinc, barite, Great Lakes, Lake		Spirit Lake	•
Superior, Thunder Bay District, Do	rion	(Donaldson, J. A., et al.)	9 1980
	9 1963	Sedimentary rocks, conglomerate	
_ ``	1903	Precambrian, Lake Huron, Lau	
Environmental geology			11 2495
Surveys, south, Great Lakes, Lake Or		(Long, D. G. F.)	
	7 1555	Sediments, till, Pleistocene, St. Jo	osepn 1111,
Geochemistry		Great Lakes, Lake Huron	0.0160
Isotopes, lead, Precambrian, Paleozoio	2,	(Broster, B. E., et al.)	9 2169
south		Stratigraphy	
(Fletcher, I. R., et al.)	1 56	Jurassic, paleoecology, biostratign	
Isotopes, oxygen, igneous rocks,		palynomorphs, miospores, Moo	ose River
metamorphic rocks, northwest, Can	adian	basin	
Shield, Superior Province		(Norris, G.)	2 153
(Shieh, YN., et al.)	5 927	Ordovician, Ottawa	
Sulfur, igneous rocks, volcanic, Abitib		(Brand, U., et al.)	9 2002
(Naldrett, A. J., et al.)	4 539	Ordovician, Ottawa	
Trace elements, dikes, diabase,	4 557	(Greggs, R. G., et al.)	11 2669
Precambrian, west, Lake of the Wo	ode	Pleistocene, biostratigraphy, Plan	itae.
	2 2941	absolute age, south, Brampton	
	2 2941	(Karrow, P. F., et al.)	3 426
Geomorphology		Pleistocene, Wisconsinan, paleoc	
Fluvial features, southwest, Grand Ri			
,	0 2294	paleoecology, Insecta, south, A	
Glacial geology, glaciation, Ottawa re	-	Eighteen Mile River, Great La	ikes, Lake
(Rust, B. R.)	2 175	Huron	
Geophysical surveys		(Ashworth, A. C.)	7 1625
Electrical methods, southwest		Precambrian, paleomagnetism, S	-
(Greenhouse, J. P., et al.)	3 496	(Schwarz, E. J.)	1 82
Heat flow, northwest, Canadian Shiel	ld	Quaternary, biostratigraphy, sou	th, Saint
(Beck, A. E., et al.)	2 332	Marys	
Paleontology		(Sigleo, W. R., et al.)	8 1888
Mammalia, Artiodactyla, palynomory	ohs.	Structural geology	
miospores, Pleistocene, Scarboroug		Deformation, field studies, Gren	ville
Bluffs	-	Province, Superior Province,	
(Churcher, C. S., et al.)	2 326	Front, southeast, Tomiko	
Petrology	2 320	(Themistocleous, S. G., et al.)	8 1708
Intrusions, dikes, igneous rocks, diab	250	Deformation, field studies, struc	
		analysis, Precambrian, Grenvi	
Precambrian, Grenville Front, Sud			ne Pront,
(Palmer, H. C., et al.)	8 1867	Coniston, Neelon	9 1052
Intrusions, plutons, igneous rocks, qu		(Allison, I., et al.)	8 1953
monzonite, Great Lakes, Lake Sur		Folds, structural analysis, tector	ncs,
Thunder Bay, Barnum Lake Pluton		Timmins	
(Kehlenbeck, M. M.)	9 2157	(Davies, J. F.)	5 1046

Structural analysis, southeast, Actinolite, Brandy Lake Co		Invertebrata, upper Ordovician (Bretsky, P. W.)	7 1674
(Schwerdtner, W. M., et al.		Yukon Territory, Graptolithina,	7 1074
Tectonics, structure, Precamb		biogeography	
northwest, Smiley Lake, D		(Lenz, A. C.)	8 1946
Lake	Courcey	Europe	0 1710
(Blackburn, C. E., et al.)	8 1959	Ireland, paleomagnetism, Connema	ara
Ordovician	0 1757	Gabbro Gabbro	w. r. w
Canada		(Morris, W. A., et al.)	11 2601
New Brunswick, absolute age	intrusions	Orogeny	11 2001
lower Ordovician	, microsions,	Evolution	
(Fyffe, L. R., et al.)	7 1687	Ellesmerian Orogeny, fold belts, I	Devonian
Newfoundland, Burlington P		Northwest Territories, Arctic A	
absolute age, Fleur de Lys	_	(Kerr, J. W.)	6 1374
(Mattinson, J. M.)	10 2316	Extent	0 10.1
Newfoundland, melange, bio		Acadian Orogeny, New Brunswich	k. west-
conodonts, Graptolithina,		central	L, 11000
Ordovician, Tremadocian,		(O'Brien, B. H.)	8 1796
Dunnage Melange	r trombium,	Periodicity	0 1/70
(Hibbard, J. P., et al.)	5 1176	Evolution, cycles, age, Precambris	n unner
Newfoundland, Porifera, mid		Precambrian, Phanerozoic, Paci	
Long Point Group	ole Oldoviolali,	Circum-Pacific, Japan	ito region,
(Rigby, J. K.)	11 2662	(Matsumoto, T.)	4 551
Northwest Territories, Baffin		Oxygen	
paleoenvironment, biostrat		Isotopes	
palynomorphs, Chitinozoa	worms.	O-18/O-16, depletion, geochemis	trv.
scolecodonts, Coelenterata		igneous rocks, basalt, plutonic,	
rocks, cores, upper Ordovi		weathering, enrichment, cores,	
Caradocian	0.0011)	Ocean, North Atlantic	
(MacLean, B., et al.)	8 1925	(Muehlenbachs, K.)	4 771
Ontario, Ottawa, type sectio		O-18/O-16, ratios, analysis, data,	
biostratigraphy, conodonts		metamorphic rocks, metasedim	
Ordovician, Nepean Form		igneous rocks, plutonic, granite	
Formation	,	Precambrian, Canadian Shield,	
(Brand, U., et al.)	9 2002	Province, Ontario	
Ontario, type sections, bound		(Shieh, YN., et al.)	5 927
biostratigraphy, conodonts		Pacific Ocean	
Ordovician, Nepean Form		Tectonophysics	
Formation		Plate tectonics, movement, sea-fle	oor
(Greggs, R. G., et al.)	11 2669	spreading, North Pacific, Juan	
Quebec, Anticosti Island, bid		Ridge, Explorer Ridge, Sovanc	
palynomorphs, correlation		zone, Canada	
Ordovician, Vaureal Form	ation,	(Riddihough, R. P.)	3 384
Dicellograptus complanatus	Zone	Plate tectonics, structure, Circum	-Pacific.
(Achab, A.)	3 413	South Pacific, South America,	
Quebec, Anticosti Island, pa	lynomorphs,	Peru, Peru-Chile Trench, Nazo	
Chitinozoa, biostratigraph		(Coulbourn, W. T., et al.)	1 102
Ordovician, Vaureal Form	ation,	Plate tectonics, subduction, South	h Pacific,
Climacograptus prominens	elongatus Zone	New Hebrides, New Caledonia	
(Achab, A.)	10 2193	Islands	
Quebec, biostratigraphy, zon	ing,	(Dubois, J., et al.)	2 250
Graptolithina, middle Ord		Pacific region	
Ordovician		Structural geology	
(Walters, M.)	5 932	Orogeny, periodicity, Precambria	an,
Quebec, sedimentary rocks,	flysch,	Phanerozoic, Circum-Pacific, J	
paleoecology, biostratigran	hy zoning	(Matsumoto, T.)	4 551

	SUBJECT	INDEX	3001
Paleoclimatology		Ordovician	
Cretaceous		Canada, Quebec, Saint Lawrence	Lowlands,
Canada, Saskatchewan, Bearpa	w Formation,	marine environment, Invertebra	ata,
temperature, indicators, Mol		benthonic taxa, sedimentation,	flysch
O-18/O-16, C-13/C-12		(Bretsky, P. W.)	7 1674
(Forester, R. W., et al.)	9 2086	Paleozoic	
Pleistocene		North America, Alberta, Great I	Lakes, New
Canada, Newfoundland, glacio	fluvial	York, reefs, sedimentation, tra-	nsport,
environment		indicators, Coelenterata, Tabul	ata,
(Eyles, N.)	12 2797	Stromatoporoidea	
Canada, Nova Scotia, temperat	ture, glacial	(Kobluk, D. R., et al.)	10 2226
environment, postglacial env		Pleistocene	
Mollusca		Canada, Nova Scotia, marine, M	follusca,
(Wagner, F. J. E.)	6 1305	sedimentation	
Canada, Ontario, temperature,		(Wagner, F. J. E.)	6 1305
(Ashworth, A. C.)	7 1625	Canada, Ontario, terrestrial envis	ronment,
Quaternary	, 1020	valleys, tundra, forests, Insects	1
Canada, Northwest Territories,	cycles	(Ashworth, A. C.)	7 1625
glacial environment, intergla		Quaternary	
environment	0141	Canada, Ontario, south, terrestri	al
(Miller, G. H., et al.)	12 2824	environment, forests, tundra, p	pollen
Canada, Northwest Territories		analysis	
temperature, precipitation, in		(Sigleo, W. R., et al.)	8 1888
Mollusca, Ostracoda, pollen		Silurian	
vegetation	anarysis,	Canada, Quebec, Gaspe Peninsu	ıla, marine,
(Delorme, L. D., et al.)	9 2029	shallow water, tidal, lagoons,	
North America, Rocky Mount		paleobathymetry, ichnofossils	
Northwest Territories, temp		(Pickerill, R. K., et al.)	2 239
glacial environment, intergla		Paleogeography	
environment	Ciai	Atlantic Ocean	
(Harmon, R. S., et al.)	11 2543	Iapetus, Newfoundland, Ordovic	
Paleoecology	11 2343	Silurian, Devonian, suture zon	
Cambrian		evidence, biogeography, Brach	hiopoda,
Canada, Newfoundland, Bonav	vieta	Trilobita	
Formation, algae, growth, re		(McKerrow, W. S., et al.)	3 488
grazing, cropping, worms	our rection,	Canada	
(Edhorn, AS.)	5 1014	Canadian Cordillera, Mesozoic,	Tertiary,
Eocene	3 1014	sedimentary basins	10 2414
Canada, British Columbia, lake	es. anaerobic	(Eisbacher, G. H.)	10 2414
indicators, taphonomy, pres		Maritime Provinces, Mesozoic,	
Pisces, coprolites, algae, dia		continental margin, geosyncli	nes 11 2553
Plantae, leaves	tomo, mocota,	(King, L. H., et al.) Silurian	11 2555
(Wilson, M. V. H.)	5 953		Compensat
Holocene		Canada, Northwest Territories, Island, Read Bay Formation,	
Arctic Ocean, Beaufort Sea, M	follusca.	Formation, sedimentation	Leopoid
marine environment, shallow		(Jones, B., et al.)	6 1427
environment, paleobathyme		Paleomagnetism	0 1427
of level	and the state of t	Carboniferous	
(Wagner, F. J. E.)	9 2013	Canada, Nova Scotia, pole posi	tions
Jurassic	. 2010	reversals, experimental studie	
Canada, Ontario, Moose Rive	r basin.	remanent magnetization, dem	
terrestrial, sedimentation, pr		sedimentary rocks, magnetos	-
miospores	Januar Pano,	marker horizons	- S Prij

marker horizons

5 1116

(Roy, J. L.)

miospores

(Norris, G.)

Changes		Canada, Saskatchewan, south,		
Theoretical studies, stress, effects,		Creek Ash, clay, host materials, volcanic		
reversible, remanent magnet	ization,	ash, tephrochronology		
grains, single-domain structu	ire,	(Westgate, J. A., et al.)	3 357	
applications, earthquakes, pr	rediction	Pole positions		
(Hodych, J. P.)	9 2047	Concordance, discordance, fold	s, limbs,	
Experimental studies		data, natural remanent magne	etization,	
Igneous rocks, basalt, cores, cr	rust, Layer 2,	igneous rocks, plutonic rocks	, plate	
natural remanent magnetiza		tectonics, Cretaceous, Eocene	The state of the s	
anhysteretic remanent magn		Columbia, Coast plutonic con		
magnetic field, intensity, Mi		(Symons, D. T. A.)	6 1246	
Pliocene, Atlantic Ocean, N		Precambrian	0 1240	
(Carmichael, C. M.)	4 745	Canada, Labrador, Harp Lake	Complex	
Igneous rocks, basalt, cores, c	rust, Laver 2.		-	
thermoremanent magnetizat		pole positions, polar wanderi		
remanent magnetization, ch		magnetization, data, igneous		
simulation, data, Miocene, l		anorthosite, intrusions, comp		
Atlantic Ocean, North Atla		(Irving, E., et al.)	6 1187	
(Dunlop, D. J., et al.)	4 716	Canada, Ontario, Grenville Fro	-	
Igneous rocks, plutonic, basalt		positions, remanent magnetiz		
Layer 2, natural remanent r		demagnetization, dike swarm		
viscous remanent magnetiza		(Palmer, H. C., et al.)	8 1867	
inclination, intensity, magne		Canada, Ontario, Sudbury, rem	anent	
data, Miocene, Pliocene, At		magnetization, demagnetizati	ion,	
North Atlantic	nantic Occan,	temperature, geothermal grad	dient, data,	
(Ryall, P. J. C., et al.)	4 684	dikes, diabase, host rocks, no	orite, burial,	
	4 004	depth, erosion		
Interpretation  Basalt, submarine, remanent n	nagnatization	(Schwarz, E. J.)	1 82	
		Canada, Quebec, Labrador Tro		
minerals, oxides, grains, mic		Aphebian, pole positions, pol		
cores, Atlantic Ocean, Nor		wandering, natural remanent		
(Wayman, M. L., et al.)	4 656	magnetization, directions, sta		
Remanent magnetization, visc				
magnetization, Curie point,		demagnetization, metamorph	ic rocks,	
rocks, mafic composition, n		metasedimentary, data		
susceptibility, magnetic ano		(Park, J. K.)	2 159	
tectonics, subduction, Meso		United States, Michigan, Uppe		
British Columbia, Coast Mo		Nonesuch Shale, Freda Sand		
(Coles, R. L., et al.)	8 1753	positions, polar wandering, d	leclination,	
Mesozoic		inclination, natural remanent		
Canada, British Columbia, Co		magnetization, demagnetizat	ion, data,	
Mountains, pole positions,		continental drift		
magnetization, data, pluton		(Henry, S. G., et al.)	5 1128	
metamorphic rocks, metaig		United States, Montana, north	west, Belt	
(Symons, D. T. A.)	9 2127	Supergroup, pole positions, r		
Ordovician		remanent magnetization, dat		
Europe, Ireland, pole position	s, antiform	sedimentary rocks, argillite	~,	
folds		(Vitorello, I., et al.)	1 67	
(Morris, W. A., et al.)	11 2601	Quaternary	1 07	
Paleozoic		Arctic Ocean, Beaufort Sea, no	*************	
Australia, pole positions, pola	r wandering,			
continental drift		remanent magnetization, inc		
(Schmidt, P. W., et al.)	11 2674	geochronology, excursions, o	iata,	
Pleistocene		sediments, cores		
Canada, Ontario, Lake Huros	n, St. Joseph	(Vilks, G., et al.)	9 2007	
Till, remanent magnetization		Triassic		
interpretation, till, stratigra		Alaska, pole positions, allochtl	nons	
(Broster, B. E., et al.)	9 2169	(Hillhouse, J. W.)	11 2578	

	SUBJECT	T INDEX	300
Europe, France, Vosges, Voltzia Sandsi remanent magnetization, demagnetiz statistical analysis, data, sedimentary rocks, sandstone	ation,	Northwest Territories, Arctic Archip tectonics, orogeny, evolution, Can Ordovician, Silurian, Devonian (Kerr, J. W.)	
•	1490	Ontario, Quebec, south, absolute ago	
Paleozoic	1170	interpretation	,
Atlantic region		(Fletcher, I. R., et al.)	1 56
Atlantic Ocean, Iapetus, Canada,		North America	
Newfoundland, paleogeography, biogeography, Brachiopoda, Trilobita plate tectonics, subduction, suture zo lower Paleozoic, Ordovician, Silurian Devonian	ones,	Canada, Alberta, Great Lakes, Lake United States, New York, reefs, paleoecology, sedimentation, Coelenterata, Silurian, Fossil Hill Formation, Manitoulin Formation	
(McKerrow, W. S., et al.)	3 488	Devonian, Manlius Formation	
Canada		(,,,	10 2226
Appalachians, Newfoundland, absolute	age,	Palladium	
plutons, orogeny		Abundance	**
(Bell, K., et al.)	3 456	Igneous rocks, basalt, ultramafic fan	
Appalachians, Newfoundland, melange	,	variations, depletion, leaching, da	
ophiolite, tectonics, plate tectonics, l	lower	activation analysis, cores, Atlantic	ocean,
Paleozoic, Cambrian, Ordovician, lo	wer	North Atlantic	4 777
Ordovician, Fleur de Lys Supergroup	p	(Crocket, J. H., et al.) Palynomorphs	4 ///
(,,	5 987	Chitinozoa	
British Columbia, central, igneous rock peridotite, structural analysis, plate tectonics, upper Paleozoic, Cache Co Group	reek	Ordovician, Vaureal Formation, Quanticosti Island, assemblages, biostratigraphy, correlation, taxon new taxa	
(Ross, J. V.)	1 32	(Achab, A.)	3 413
British Columbia, metasedimentary roc lithostratigraphy, correlation, lower Paleozoic, Cambrian		Ordovician, Vaureal Formation, Qu Anticosti Island, assemblages, tax biostratigraphy, range, new taxa	
* ** *	2301	(Achab, A.)	10 2193
Canadian Cordillera, lithostratigraphy, correlation, volcanic rocks, sediment rocks, assemblages, nomenclature, lithology, upper Paleozoic, Mississip Pennsylvanian, Permian (Monger, J. W. H.)	tary	Miospores  Jurassic, Ontario, Moose River basi assemblages, biostratigraphy, paleoecology, terrestrial, floral lis (Norris, G.)	2 153
New Brunswick, metamorphic rocks,	1002	Pleistocene, Wisconsinan, Pottery F	
tectonics, metamorphism, orogeny, Acadian Orogeny, Cambrian, Ordov Silurian, Devonian, Carboniferous		Formation, Ontario, pollen analysist (Churcher, C. S., et al.)  Quaternary, Erie Interstade, Ontari	2 326
, , ,	1796	biostratigraphy, zoning, pollen an	alysis,
Newfoundland, Bay of Islands, ophiolicomplexes, lower Paleozoic		paleoecology, forests, tundra (Sigleo, W. R., et al.)	8 1888
	1156	Quaternary, Northwest Territories,	
Newfoundland, Hare Bay, metamorph		biostratigraphy	10 000
rocks, alkalic, petrology, lower Pale Cambrian, Ordovician	ozoic,	(Miller, G. H., et al.)	12 2824
(Jamieson, R. A.)	3 346	Permian Canada	
(	0 0 10	Currentu	

Newfoundland, New Brunswick,

(Fyffe, L. R.)

Appalachians, lithostratigraphy, fold belts,

6 1468

zoning, tectonostratigraphic zones,

stratigraphic units, lower Paleozoic

British Columbia, metamorphism, polymetamorphism, tectonics, orogeny, correlation, biostratigraphy, absolute age, unconformities, boundary, upper Permian (Read, P. B., et al.) 4 606

### North America

Arctic region, Echinodermata, Crinoidea (Broadhead, T. W., et al.) 5 1166

### Petrology

### Instruments

Centrifuges, furnaces, applications, experimental studies, high temperature, melting, phase equilibria, acceleration, crystals, settling, floating, differentiation (Roeder, P. L., et al.) 5 1077

# Phanerozoic

### Canada

Canadian Cordillera, British Columbia, tectonics, plate tectonics, Paleozoic, Mesozoic, Tertiary (Muller, J. E.) 9 2062

Pacific region

Circum-Pacific, orogeny, periodicity
(Matsumoto, T.) 4 551

### Phase equilibria

# Experimental studies

CaO-SiO<sub>2</sub>-MgO, melting, P-T conditions, basalt, oceanic, electrical conductivity, variations, data, cores, Atlantic Ocean, North Atlantic (Schloessin, H. H.) 4 756

# Plantae

### Occurrence

Eskers, reworking, Pleistocene, Ontario, Brampton, wood, fruits, pollen, palynomorphs, miospores, angiosperms (Karrow, P. F., et al.) 3 426

# Plate tectonics

# Evolution

Fault zones, subduction zones, faults, transform, block structures, metamorphism, models, Triassic, Jurassic, British Columbia, central, Pinchi fault zone
(Paterson, I. A.) 6 1324

Fold belts, models, subduction zones, collision, volcanism, igneous activity, intrusions, metallogeny, Mesozoic, Tertiary, Canada, Canadian Cordillera (Griffiths, J. R.)

Marginal basins, troughs, gulf of californiatype, sedimentary basins, volcanism, collision, Ordovician, Atlantic Ocean, Iapetus, Ireland

(Ryan, P. D., et al.) 11 2453

Rifting, displacements, continental margin, melange, ophiolite, Precambrian, Cambrian, Ordovician, Appalachians, Newfoundland (Williams, H.) 5 987

Subduction, rifting, fold belts, igneous activity, volcanism, island arcs, Paleozoic, Mesozoic, Tertiary, British Columbia, Canadian Cordillera
(Muller, J. E.) 9 2062

### Indicators

Electrical conductivity, anomalies, lithosphere, structure, fracture zones, mobile belts, suture zones, continental margin, collision, Precambrian, Proterozoic, North America, Great Plains (Camfield, P. A., et al.) 6 1229

Suture zones, evidence, biogeography,
Brachiopoda, Trilobita, Atlantic Ocean,
Iapetus
(McKerrow, W. S., et al.) 3 488

### Movement

Evolution, rotation, continental margin, subduction, sea-floor spreading, rates, triple junctions, magnetic anomalies, theoretical studies, models, Pacific Ocean, Canada (Riddihough, R. P.) 3 384

### Structure

Continental margin, basins, sedimentary basins, fore-arc basins, seismic surveys, reflection, evolution, models, trenches, island arcs, sedimentation, subduction, obduction, convergence, faults, thrust, imbricate, Pacific Ocean, South America, Nazca Plate, Peru-Chile Trench (Coulbourn, W. T., et al.)

Fracture zones, crust, oceanic, magnetic anomalies, inversion, profiles, geophysical surveys, sea-floor spreading, rates, Atlantic Ocean, North Atlantic (Ross, D. I., et al.) 4 664

# Subduction

Convergence, possibilities, magnetic anomalies, models, crust, plutonic rocks, magnetic susceptibility, paleomagnetism, Mesozoic, Tertiary, British Columbia, Coast Mountains (Coles, R. L., et al.) 8 1753

Rates, estimation, lithosphere, uplifts, bulges, experimental studies, reefs, corals, absolute age, theoretical studies, models, plates, movement, sea-floor spreading, Pacific Ocean, New Hebrides, New Caledonia, Loyalty Islands (Dubois, J., et al.) 2 250

# Pleistocene

### Canada

Alberta, glaciation, Laurentide ice sheet (Stalker, A. M.) 11 2614

British Columbia, southwest,		Precambrian Africa	
lithostratigraphy, biostratigrap	lithostratigraphy, biostratigraphy,		
palynomorphs, miospores, alg	ae, diatoms,	Morocco, absolute age, volcan	ic rocks,
type sections, stratotypes, up	per	boundary, upper Precambria	in
Pleistocene, Wisconsinan, Qu	adra Sand,	(Ducrot, J., et al.)	12 2771
Cowichan Head Formation		Canada	
(Armstrong, J. E., et al.)	7 1471	Appalachians, Newfoundland,	melange,
Newfoundland, periglacial featu	ires,	ophiolite, tectonics, plate te	ctonics, upper
sedimentary structures		Precambrian, Hadrynian, Fl	eur de Lys
(Eyles, N.)	12 2797	Supergroup	
Nova Scotia, paleoclimatology,		(Williams, H.)	5 987
paleoecology, Mollusca, uppe	r	British Columbia, Canadian C	ordillera,
Pleistocene, Wisconsinan		metasedimentary rocks, hea	vy minerals,
(Wagner, F. J. E.)	6 1305	Proterozoic, Helikian, Aldri	dge
Ontario, Brampton, eskers, bios	stratigraphy,	Formation	
Plantae, reworking, absolute		(Ethier, V. G., et al.)	10 2348
Wisconsinan		British Columbia, metasedime	ntary rocks,
(Karrow, P. F., et al.)	3 426	lithostratigraphy, correlation	-
Ontario, Great Lakes, Lake Hu	ron, till.	Precambrian, Hadrynian	
stratigraphic units, paleomag		(Hoy, T.)	10 2301
paleoenvironment, Wisconsin	_	Canadian Shield, Laurentia, L	abrador, Harp
Joseph Till	•	Lake Complex, paleomagne	tism,
(Broster, B. E., et al.)	9 2169	continental drift	
Ontario, Mammalia, Artiodacty	vla.	(Irving, E., et al.)	6 1187
palynomorphs, miospores, up		Grenville Province, absolute a	
Pleistocene, Wisconsinan, Sc		interpretation	
Bluffs		(Fletcher, I. R., et al.)	1 56
(Churcher, C. S., et al.)	2 326	Labrador, granite, absolute ag	
Ontario, paleoclimatology, pale		(Barton, J. M., Jr.)	7 1635
Insecta, upper Pleistocene, V		Labrador, Harp Lake Comple	x. dikes.
(Ashworth, A. C.)	7 1625	petrology, Proterozoic, Hel	
Saskatchewan, east, Lake Agas		Neohelikian, Seal Lake Gro	
paleogeography, extinct lake		(Meyers, R. E., et al.)	12 2683
upper Pleistocene	-,,	Labrador, Quebec, Labrador	
(Langford, F. F.)	6 1286	formations, Proterozoic, So	
Saskatchewan, south, geochron		Formation	
tephrochronology, paleomag		(Fryer, B. J.)	7 1598
stratigraphy, correlation, mic		Labrador, Red Wine alkaline	
Pleistocene, Wascana Creek		absolute age	,
(Westgate, J. A., et al.)	3 357	(Blaxland, A. B., et al.)	8 1940
Pliocene		Manitoba, Ontario, Canadian	
Atlantic Ocean		Superior Province, English	
North Atlantic, biostratigraphy	v. zoning.	Subprovince, metamorphic	
algae, nannofossils	,	igneous rocks, plutonic roc	
(Howe, R. C., et al.)	4 707	metamorphic belts	
Porifera		(Beakhouse, G. P.)	7 1481
Demospongea		New Brunswick, south, igned	
Ordovician, Newfoundland, m	orphology,	volcanic rocks, stratigraphy	
affinities, occurrence, Epiple		paleogeography, tectonics,	
new taxa		zoning, upper Precambrian	
(Rigby, J. K.)	11 2662	Group	,
Potassium		(Giles, P. S., et al.)	6 1263
Analysis		Northwest Territories, absolu	
Activation analysis, sample pr	reparation	Aphebian, Spi Lake Basalt	

Northwest Territories, Bathurst	Inlet,	Saskatchewan, Manitoba, Flin	Flon,
sedimentary rocks, breccia, Pr	oterozoic,	intrusions, petrology	
Goulburn Group		(Syme, E. C., et al.)	3 444
(Cecile, M. P., et al.)	10 2364	Geochemistry	
Northwest Territories, Canadian	Shield,	Iron, lava, variolitic, weatherin	g, iron
Bear Province, Slave Province	, absolute	formations, banded, genesis,	
age, Archean		(Brooks, C.)	3 511
(Frith, R., et al.)	6 1356	North America	
Northwest Territories, Itchen La	ike.	Great Plains, plate tectonics, I	roterozoic
metamorphic rocks, iron form		(Camfield, P. A., et al.)	6 1229
Archean		Pacific region	0 1227
(Bostock, H. H.)	8 1740	Circum-Pacific, orogeny, upper	Precambrian
Northwest Territories, stratigrap		(Matsumoto, T.)	4 551
correlation, paleoenvironment,			4 331
paleoclimatology, paleogeogra		Structural geology	
Precambrian, Proterozoic	pity, upper	Cratons, basins, shields, Arche	
(Young, G. M.)	8 1771	(Goodwin, A. M.)	12 2737
Northwest Territories, Victoria		United States	
		Michigan, Upper Peninsula,	
sedimentation, paleoenvironm	ent,	paleomagnetism, continental	
Proterozoic, Shaler Group	10 2246	Keweenawan, Nonesuch Sha	ale, Freda
(Young, G. M., et al.)		Sandstone	
Ontario, Abitibi Belt, igneous ro		(Henry, S. G., et al.)	5 1128
volcanic, geochemistry, sulfur	, Blake	Minnesota, Vermilion District	, metavolcanic
River Group	4 500	rocks, lower Precambrian, N	lewton Lake
(Naldrett, A. J., et al.)	4 539	Formation	
Ontario, Canadian Shield, Gren		(Green, J. C., et al.)	10 2181
dikes, paleomagnetism, absolu		Montana, northwest, paleoma	gnetism, pole
(Palmer, H. C., et al.)	8 1867	positions, Helikian, Hadryni	
Ontario, Canadian Shield, Super		Supergroup, Spokane Forms	
Province, igneous rocks, meta	morphic	Formation	anon, orimion
rocks, geochemistry		(Vitorello, I., et al.)	1 67
(Shieh, YN., et al.)	5 927	Prince Edward Island	1 0,
Ontario, conglomerate, sedimen	tation,	Oceanography	
Proterozoic, Aphebian, Huror	nian,	- 1	
Mississagi Formation, Lauzon	Member,	Sedimentation, Gulf of Saint	Lawrence,
Bruce Formation		Malpeque	11 0400
(Long, D. G. F.)	11 2495	(Armon, J. W., et al.)	11 2429
Ontario, east, metamorphism, gr	rade, pelitic	Quaternary	
schist, petrofabrics, Proterozo	ic, Grenville	Arctic Ocean	
Supergroup, Flinton Group		Beaufort Sea, geochronology,	
(Rivers, T., et al.)	2 185	paleomagnetism, biostratigra	
Ontario, Munro, lava flows, pet	rology,	foraminifera, absolute age, a	иррег
nomenclature, Archean, Fred		Quaternary	
Theo's Flow		(Vilks, G., et al.)	9 2007
(Arndt, N. T.)	11 2620	Atlantic Ocean	
Ontario, northwest, tectonics,		Gulf of Saint Lawrence, paled	-
metamorphism		oceanography, changes of le	evel,
(Blackburn, C. E., et al.)	8 1959	sedimentation, foraminifera	, upper
Ontario, Sudbury Irruptive,		Quaternary	• •
paleomagnetism, igneous rock	cs. norite	(Schafer, C. T.)	4 593
(Schwarz, E. J.)	1 82	Canada	
Quebec, Labrador Trough, pale		Newfoundland, landform evol	lution.
Proterozoic, Aphebian	omegnousin,	glaciation, Pleistocene, Wis	
(Park, J. K.)	2 159	Holocene	Constituti,
Saskatchewan, Canadian Shield		(Brookes, I. A.)	9 210
metamorphism, metamorphic			
(Lewry, J. F., et al.)	6 1453	Newfoundland, moraines, abs	
(Lewiy, J. I., et al.)	0 1433	changes of level, Pleistocen	e, upper

Pleistocene, Holocene		Weathering, Mount Megantic	
(Brookes, I. A.)	9 2121	(Clement, P., et al.)	10 2262
Northwest Territories, glaciation	on, isostasy,	Geophysical surveys	
Pleistocene, Wisconsinan		Geophysical methods, Canadia	
(Koerner, R. M.)	12 2697	Grenville Province, Quebec	City region,
Northwest Territories, glaciation		La Malbaie	
paleoclimatology, absolute a	-	(Honkura, Y., et al.)	2 256
(Miller, G. H., et al.)	12 2824	Gravity surveys, north, Labrac	ior Trough
Northwest Territories, northwest		(Kearey, P.)	1 45
paleoclimatology, palynomo	rphs,	Gravity surveys, Saguenay Va	lley
miospores, Mollusca, Ostrac	oda, absolute	(Duncan, P. M., et al.)	2 145
age, upper Quaternary, Hole		Magnetotelluric methods, Can	adian Shield,
(Delorme, L. D., et al.)	9 2029	Grenville Province, Quebec	City region,
Ontario, Ottawa region, sedim	entation,	La Malbaie	
outwash, subaqueous, upper	Quaternary	(Bailey, R. C., et al.)	10 2426
(Rust, B. R.)	2 175	Hydrogeology	
Ontario, south, biostratigraphy	, zoning,	Ground water, Eaton River be	sin. Mirabel
palynomorphs, paleoenviron	ment,	(Simard, G.)	10 2325
sediments, silt, upper Quate	mary, Erie	Paleobotany	10 2020
Interstade		Algae, Silurian, Lake Mataped	lia
(Sigleo, W. R., et al.)	8 1888	(Herous, Y., et al.)	12 2865
North America		Palynomorphs, Ordovician, A	
Rocky Mountains, Northwest	Territories,	(Achab, A.)	10 2193
Mackenzie Mountains, abso	olute age,	Paleontology	10 2193
speleothems, paleoclimatolo	gy, upper	-	nt I ammanaa
Quaternary		Graptolithina, Ordovician, Sai Lowlands	int Lawrence
(Harmon, R. S., et al.)	11 2543		5 932
United States		(Walters, M.)	
Idaho, lava, Snake River Ground	ир	Ichnofossils, Silurian, Gaspe I	
(Stout, M. Z., et al.)	9 2140	(Pickerill, R. K., et al.)	2 239
Quebec		Ichnofossils, Silurian, Gaspe I	
Economic geology		(Pickerill, R. K., et al.)	12 2729
Gold, O'Brien Mine		Petrology	
(Krupka, K. M., et al.)	12 2760	Igneous rocks, ophiolite, south	h, Thetford
Geochemistry		Mines, Asbestos	
Isotopes, lead, Precambrian, I	Paleozoic,	(Church, W. R.)	7 1668
south		Intrusions, dikes, Matagami	
(Fletcher, I. R., et al.)	1 56	(Smith, R. E., et al.)	3 505
Metamorphic rocks, Montaub	an-les-Mines	Seismology	
(Stamatelopoulou-Seymour,	K., et al.)	Crust, Saint Lawrence Valley,	La Malbaie
	11 2440	(Hearty, D. J., et al.)	10 2284
Rare earths, anorthosite, man	gerite, Morin	Earthquakes, Saint Lawrence	Valley, La
Complex		Malbaie, Charlevoix Structi	are
(Seifert, K. E., et al.)	5 1033	(Leblanc, G., et al.)	12 2778
Trace elements, rare earths, i	ron formations,	Stratigraphy	
Sokoman Iron Formation,		Ordovician, biostratigraphy, p	alynomorphs,
Trough, Schefferville		Anticosti Island	
(Fryer, B. J.)	7 1598	(Achab, A.)	3 413
Geomorphology		Ordovician, paleoecology, bio	stratigraphy,
Frost action, Saint Lawrence	Estuary.	Invertebrata, Saint Lawrence	e Lowlands.
Rimouski, Rocher-Blanc		Nicolet River valley	
(Bourget, E.)	8 1732	(Bretsky, P. W.)	7 1674
Glacial geology, periglacial fe		Precambrian, Aphebian, paleo	
Schefferville	,	central, Labrador Trough	and a second
	3 431		2 159
(Seguin, M. K.)	3 431	(Park, J. K.)	2

Interior, crust, mantle, British Columbia, Project Edzoe (Mereu, R. F., et al.) 2 196 Structural geology Tectonics, structure, British Columbia, Radium (Spence, G. D., et al.) 1 2: Saskatchewan Geochronology Methods, tephrochronology, fission-track, paleomagnetism, Pleistocene, Wascana Creek Ash, south (Westgate, J. A., et al.) 3 35:	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364 Conglomerate, clasts, orthoquartzite, petrography, textures, mineral composition, petrography, heavy minerals, provenance, Precambrian, Archean, Canada, Ontario (Donaldson, J. A., et al.) 9 1980 Conglomerate, subaqueous environment, lakes, deposition, reworking, Precambrian, Ontario	
Project Edzoe (Mereu, R. F., et al.) 2 196 Structural geology Tectonics, structure, British Columbia, Radium (Spence, G. D., et al.) 1 2: Saskatchewan Geochronology Methods, tephrochronology, fission-track,	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364 Conglomerate, clasts, orthoquartzite, petrography, textures, mineral composition, petrography, heavy minerals, provenance, Precambrian, Archean, Canada, Ontario (Donaldson, J. A., et al.) 9 1980 Conglomerate, subaqueous environment,	
Project Edzoe (Mereu, R. F., et al.) 2 196 Structural geology Tectonics, structure, British Columbia, Radium (Spence, G. D., et al.) 1 2: Saskatchewan Geochronology	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364 Conglomerate, clasts, orthoquartzite, petrography, textures, mineral composition, petrography, heavy minerals, provenance, Precambrian, Archean, Canada, Ontario (Donaldson, J. A., et al.) 9 1980	
Project Edzoe (Mereu, R. F., et al.) 2 196 Structural geology Tectonics, structure, British Columbia, Radium (Spence, G. D., et al.) 1 25 Saskatchewan	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364 Conglomerate, clasts, orthoquartzite, petrography, textures, mineral composition, petrography, heavy minerals, provenance, Precambrian, Archean, Canada, Ontario	
Project Edzoe (Mereu, R. F., et al.) 2 196 Structural geology Tectonics, structure, British Columbia, Radium (Spence, G. D., et al.) 1 25	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364 Conglomerate, clasts, orthoquartzite, petrography, textures, mineral composition, petrography, heavy minerals, provenance, Precambrian,	
Project Edzoe (Mereu, R. F., et al.) 2 196 Structural geology Tectonics, structure, British Columbia, Radium	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364 Conglomerate, clasts, orthoquartzite, petrography, textures, mineral composition, petrography, heavy	
Project Edzoe (Mereu, R. F., et al.) 2 196 Structural geology Tectonics, structure, British Columbia,	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364 Conglomerate, clasts, orthoquartzite, petrography, textures, mineral	
Project Edzoe (Mereu, R. F., et al.) 2 196 Structural geology	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364 Conglomerate, clasts, orthoquartzite,	
Project Edzoe (Mereu, R. F., et al.) 2 196	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet (Cecile, M. P., et al.) 10 2364	
Project Edzoe	analysis, Precambrian, Goulburn Group, Northwest Territories, Bathurst Inlet	
	analysis, Precambrian, Goulburn Group,	
Seismology	dikes, sedimentary pipes, environmental	
(Harmon, R. S., et al.) 11 2543	structures, onstostromes, seamentary	
Absolute age, Quaternary, central	Breccia, stratiform deposits, sedimentary	
Geochronology	Clastic rocks, terrigenous	
Rocky Mountains	(Fryer, B. J.) 7 1598	
(Johnson, R.) 8 1916	Queece, Labrador Trough	
Stenopterygius	Sokoman Iron Formation, Labrador,	
growth, maturity, sex, models,	data, genesis, provenance, Precambrian,	
Jurassic, morphology, ontogeny, size,	geochemistry, trace elements, rare earths,	
Ichthyopterygia	Iron-rich rocks, iron formations,	
(Sues, HD.) 4 587		
Saurornithoididae	Precambrian, Archean	
dinosaurs, Theropoda, Dromaesauridae,	genesis, lava, variolitic, weathering,	
morphology, dentaries, taxonomy,	Iron-rich rocks, iron formations, banded,	
Cretaceous, Alberta, occurrence,	(Van Everdingen, R. O., et al.) 12 2790	
Archosauria	Territories	
Reptilia	Cambrian, Devonian, Northwest	
(Kobluk, D. R., et al.) 10 2226	Evaporites, isotopes, sulfur, stratigraphy,	
Stromatoporoidea, orientation, size	Chemically precipitated rocks	
indicators, Coelenterata, Tabulata,	Sedimentary rocks	
paleoecology, sedimentation, transport,	(Riddihough, R. P.) 3 384	
Canada, United States, New York,	North Pacific, Canada, evolution, rates	
North America	Pacific Ocean	
Reefs	Sea-floor spreading	
(Fryer, B. J.) 7 1598	(Lewry, J. F., et al.) 6 1453	
Labrador, Quebec, Labrador Trough	Tectonics, structure, north, Canadian Shield	
Precambrian, Sokoman Iron Formation,	(Thomas, M. D., et al.) 8 1788	
Sedimentary rocks, iron formations, data,	Gow Lake	
(Seifert, K. E., et al.) 5 1033	Tectonics, structure, meteor craters, north,	
Adirondack Mountains, Quebec	Structural geology	
complexes, patterns, data, New York,	(Forester, R. W., et al.) 9 2086	
Igneous rocks, anorthosite, mangerite,	Cypress Hills, South Saskatchewan River	
Abundance	Cretaceous, paleoclimatology, southwest,	
Rare earths	Stratigraphy	
(Grenon, A., et al.) 3 500	(Syme, E. C., et al.) 3 444	
Tectonics, structure, Ungava, LG-3 Fault	Boundary Intrusions	
(Prichonnet, G., et al.) 5 1085	Intrusions, Precambrian, Flin Flon region,	
Dominique	Petrology	
Tectonics, structure, Appalachians, Saint	(Langford, F. F.) 6 1286	
(Walawender, M. J.) 1 74	valley, Lake Agassiz	
Charlevoix Structure	Churchill River valley, Reindeer River	
Deformation, experimental studies,	Glacial geology, periglacial features, east,	
Structural geology	Geomorphology	

Lithofacies, petrography, sedimentary		structures, soft sediment deformation,	
structures, stromatolites, environmental		ball-and-pillow, Quaternary, On	ntario,
analysis, deltas, Precambrian		Ottawa region	
Shaler Group, Northwest Te	rritories,	(Rust, B. R.)	2 175
Victoria Island		Interpretation	
(Young, G. M., et al.)	10 2246	Cross-bedding, stromatolites, pale	
Environmental analysis		transport, provenance, sedimen	
Marine environment, shelf env		Precambrian, Proterozoic, Nor	thwest
limestone, conglomerate, bre		Territories	
lithology, composition, organ		(Young, G. M.)	8 1771
Ordovician, Caradocian, No.	rthwest	Olistostromes, sedimentary dikes	
Territories, Baffin Island	0 1005	sedimentary pipes, clastic dike	
(MacLean, B., et al.)	8 1925	environmental analysis, breccis	
Lithofacies		Precambrian, Goulburn Group	
Limestone, dolostone, sandston		Northwest Territories, Bathurs	
environmental analysis, prov		(Cecile, M. P., et al.)	10 2364
textures, lithostratigraphy, S		Planar bedding structures	
Bay Formation, Leopold Fo		Varves, environmental analysis, l	
Northwest Territories, Some	6 1427	anaerobic, paleoclimatology, E	ocene,
(Jones, B., et al.) Lithostratigraphy	0 1427	British Columbia	
Distribution, assemblages, lithe	ology	(Wilson, M. V. H.)	5 953
nomenclature, Paleozoic, Ca		Sedimentation	
Canadian Cordillera	mada,	Controls	
(Monger, J. W. H.)	8 1832	Structural controls, plate tectonic	CS,
Mesozoic, Cenozoic, Atlantic		Ordovician, Ireland	
Scotian Shelf, Georges Bank		(Ryan, P. D., et al.)	11 2453
(Wade, J. A.)	10 2274	Structural controls, tectonics, pla	
Silurian, New Brunswick	10 2214	tectonics, basins, paleogeograp	
(Lee, H. J., et al.)	11 2533	Mesozoic, Tertiary, Canada, C	anadian
Organic residues	11 2000	Cordillera	20.01.2
Coal, rank, reflectance, coalifi	cation.	(Eisbacher, G. H.)	10 2414
diagenesis, metamorphism,		Deposition	
metamorphism, age, applica		Gravity flow, reworking, conglor	merate,
petroleum, genesis, experim		Precambrian, Ontario	
Cretaceous, Tertiary, Eurek		(Long, D. G. F.)	11 2495
Formation, Northwest Terri		Sedimentary basins, controls, up	lifts,
Ellesmere Island, Axel Heil		Silurian, New Brunswick	
(Bustin, R. M., et al.)	7 1588	(Lee, H. J., et al.)	11 2533
Sedimentary structures		Environment	
Biogenic structures		Coastal environment, tidal envir	
Ichnofossils, burrows, Arthrop	ooda, Silurian,	lithofacies, carbonate rocks, p	
Quebec		paleogeography, Silurian, Nor	thwest
(Pickerill, R. K., et al.)	12 2729	Territories, Somerset Island	
Ichnofossils, environmental ar		(Jones, B., et al.)	6 1427
shallow water, tidal, lagoon		Deltas, tidal flats, marine enviro	
Chaleurs Group, Quebec, C		shallow-water environment, p	
Peninsula		lithofacies, stromatolites, Prec	
(Pickerill, R. K., et al.)	2 239	Proterozoic, Shaler Group, N	orthwest
Environmental analysis		Territories, Victoria Island	
Glaciofluvial environment, so	ft sediment	(Young, G. M., et al.)	10 2246
deformation, faults, perigla	cial features,	Subaqueous, outwash, deposition	
Pleistocene, Newfoundland		movements, sedimentary stru	
(Eyles, N.)	12 2797	lithofacies, Quaternary, Ontar	rio, Ottawa
Outwash, subaqueous, deposi		region	
movements, evidence, char	nnels, dish	(Rust, B. R.)	2 175

Processes		Clay, glaciolacustrine environme	nt.
Alluviation, glaciofluvial environment,		environmental analysis, lakes, extinct	
periodicity, erosion, depositi	on, thickness,	lakes, clay mineralogy, Pleisto	
Holocene, Alberta, Calgary		Saskatchewan, east, Lake Aga	
(Osborn, G. D.)	7 1515	(Langford, F. F.)	6 1286
Erosion, transport, deposition,	waves,		
energy, dynamics, sediments	, distribution,	Gravel, sand, clay, textures, Qua	
lakes, Holocene, modern, Sv	veden, Lake	Atlantic Ocean, Gulf of Saint	
Vaner		(Schafer, C. T.)	4 593
(Haakanson, L.)	3 397	Sand, gravel, lithofacies, sedimen	
Provenance		structures, environmental anal	ysis,
Orthoquartzite, clasts, conglon	nerate,	outwash, subaqueous, Quatern	ary,
environment, shelf environm		Ontario, Ottawa region	
Precambrian, Archean, Onta		(Rust, B. R.)	2 175
(Donaldson, J. A., et al.)	9 1980	Till, classification, stratigraphic	units,
Transport		environmental analysis, paleon	
Glacial transport, environment	t. polar	Pleistocene, St. Joseph Till, O	
environment, arid environm		Huron	and the same
structure, preservation, class		(Broster, B. E., et al.)	9 2169
(Shaw, J.)	6 1239		
Marine transport, deposition,		Till, lithofacies, textures, structu	
changes of level, bathymetry		preservation, environmental a	
Quaternary, Atlantic Ocean		polar environment, arid enviro	
Saint Lawrence	, oan or	classification, transport, depos	
(Schafer, C. T.)	4 593	(Shaw, J.)	6 1239
Marine transport, longshore c		Volcanic ash, lithostratigraphy,	
barrier islands, sediments, b		geochronology, tephrochronology,	
provenance, Prince Edward		Pleistocene, Wascana Creek A	Ash, Canada,
(Armon, J. W., et al.)	11 2429	Saskatchewan, south	
		(Westgate, J. A., et al.)	3 357
Marine transport, nearshore environment, longshore currents, beaches, topography,		Composition	
		Chemical composition, iron, ma	nganese.
Nova Scotia, Martinique Be (Keeley, J. R.)	8 1906	nickel, copper, cobalt, chromi	
Marine transport, reefs, indica		data, chemical analysis, techn	
Coelenterata, Tabulata, Stro		Holocene, Great Lakes, Lake	-
orientation, size, Paleozoic,			-
America	North	(Mothersill, J. S.)	5 1054
	10 2226	Geochemistry	
(Kobluk, D. R., et al.)	10 2226	Organic materials, carbon, organic	nic carbon,
Marine transport, tides, curre		nitrogen, Great Lakes	
New Brunswick, Miramichi		(Kemp, A. L. W., et al.)	10 2402
(Reinson, G. E.)	11 2524	Seismology	
Stream transport, braided stre		Crust	
evolution, hydrodynamics,		Structure, variations, upper crus	st,
Holocene, modern, British	Columbia,	teleseismic signals, recording,	arrays,
Kicking Horse River	4 562	1974, Quebec, La Malbaie	
(Hein, F. J., et al.)		(Hearty, D. J., et al.)	10 2284
Wind transport, Holocene, N	ortnwest	Elastic waves	
Territories, Banks Island	11 2462	Body waves, P-waves, theoretic	al studies
(Pissart, A., et al.) Sediments	11 2462	automatic data processing, se	
Clastic sediments, terrigenous		synthetic, spectral analysis, a	
			ttenuation,
Alluvium, colluvium, textures		crust, anisotropy, Q, models	£ 1000
environmental analysis, allu		(Sprenke, K. F., et al.)	5 1062
glaciofluvial environment,		P-waves, residuals, data, structu	
thickness, paleosols, Holoc	ene, Alberta,	upper mantle, inhomogeneity	
Calgary	7 1515	provinces, networks, Canada,	
(Osborn, G. D.)	7 1515	(Buchbinder, G., et al.)	6 1292

Interior		Quebec, algae, Sayabec Formation	
Crust, Mohorovicic discontinuity, upper		(Herous, Y., et al.) 12 2865	
mantle, structure, deep seismi	c sounding,	Quebec, Gaspe Peninsula, ichnofos	sils,
refraction, explosions, elastic	waves, P-	Chaleurs Group, Gascons Forms	tion
waves, velocity, Canada, Rocl	ky	(Pickerill, R. K., et al.)	12 2729
Mountains		Quebec, Gaspe Peninsula, ichnofos	sils,
(Mereu, R. F., et al.)	2 196	paleoecology, paleobathymetry,	Chaleurs
Lithosphere, upper mantle, low-	velocity	Group	
zones, partial melting, Canada		(Pickerill, R. K., et al.)	2 239
(Hall, D. H.)	11 2638	Sodium	
Mantle	11 2000	Analysis	
Elastic waves, Love waves, Ray	leigh waves	Activation analysis, sample prepare	ation
recording, long period, invers		(Krupka, K. M., et al.)	12 2760
		Soils	
velocity, upper mantle, low-v		Methods, analytical	
zones, data, British Columbia		Chemical methods, physical method	ds,
(Wickens, A. J.)	5 1100	spectroscopy, Mossbauer, infrare	d, X-ray
Microearthquakes		diffraction analysis, differential t	
Seismicity, surveys, geologic ha		analysis, iron oxides, compounds	
intrusions, impact features, Q	uebec, La	identification, minerals, hematite	
Malbaie		goethite, organic materials, stand	
(Leblanc, G., et al.)	12 2778	materials, Canada	
Seismicity		(Kodama, H., et al.)	1 1
Patterns, data, earthquakes, epi	centers,	Morphology	
1899-1974, Canada, north		Micromorphology, textures, mound	ds.
(Basham, P. W., et al.)	7 1646	permafrost, Canada, north	,
ilurian		(Crampton, C. B.)	4 639
Canada		Structural analysis	
Canadian Cordillera, Brachiopo	oda,	Folds	
Llandoverian, Wenlockian, B		Anticlines, synclines, fold axes, plu	unging.
Formation, Road River Form		interference patterns, Ontario, T	
(Lenz, A. C.)	7 1521	(Davies, J. F.)	5 1046
New Brunswick, sedimentation		Fractures	2 1010
paleoenvironment, stratigrap		Joints, patterns, joint sets, oriental	rion
(Lee, H. J., et al.)	11 2533	regional, local, discrimination, C	
Northwest Territories, Baillie-I		Alberta	anau,
Island, Trilobita, Wenlockian		(Currie, J. B., et al.)	6 1211
	i, Cape	Interpretation	
Phillips Formation	2 285	Folds, fold belts, faults, schistosity	1.
(Perry, D. G., et al.)		petrofabrics, schist, New Brunsv	-
Northwest Territories, Somers		west-central	,
Echinodermata, Crinoidea, t		(O'Brien, B. H.)	8 1796
specimens, age, upper Siluria	an, Ludiovian,	Fractures, slip, rotation, strain, pro-	
Read Bay Formation	0.01/0	orientation, analogs, translation	
(Narbonne, G. M.)	9 2168	brittle deformation, hornblende,	
Northwest Territories, Somers		Ontario	, , , , ,
Echinodermata, Crinoidea,		(Allison, I., et al.)	8 1953
Ludlovian, Read Bay Forms	ition	Interference patterns, schistosity,	
(Frest, T. J., et al.)	1 132	folds, domes, geometry, diapiris	
Northwest Territories, Somers	et Island,	models, massifs, migmatites, gno	
paleogeography, sedimentati		zoning, Europe, France, Saint-M	
paleoenvironment, stratigrap		Massif	
sections, correlation, lithost	ratigraphy,	(Brun, JP.)	8 1697
biostratigraphy, conodonts,	upper	Lineation, foliation, schistosity,	
Silurian, Read Bay Formatic	on, Leopold	metamorphic rocks, fabric, class	sification.
Formation		L, S, applications, field studies,	
(Jones, B., et al.)	6 1427	(Schwerdtner, W. M., et al.)	5 1021

Petrofabrics, folds, foliation, frac	ture	Eocene	
cleavage, lineation, interference	e patterns,	(Symons, D. T. A.)	6 1246
mylonitization, tectonite, intru	sions,	Manitoba, Ontario, Canadian Sh	nield,
peridotite, alpine-type, plate te	ectonics,	Superior Province, English Ri	ver
Paleozoic, British Columbia		Subprovince, Ear Falls-Manig	
(Ross, J. V.)	1 32	gneiss belt, Winnipeg River be	
Petrofabrics, metagabbro-norite,		belt, geophysical surveys, mag	
deformation, metamorphism, r	nid-ocean	anomalies, Bouguer anomalies	
ridges, Atlantic Ocean, North		structure	,,,
(Helmstaedt, H., et al.)	4 886	(Beakhouse, G. P.)	7 1481
Petrofabrics, schistosity, preferre	ed	Evolution	, 1401
orientation, muscovite, metam		Cratons, basins, shields, fold bel	te orogeny
grade, indicators, pelitic schist		metamorphism, Precambrian,	
Precambrian, Ontario, east	,		
(Rivers, T., et al.)	2 185	global, Canada, Canadian Shi	12 2737
Preferred orientation	2 100	(Goodwin, A. M.)	
Patterns, contouring, automatic	dete	Fault zones, faults, systems, blo	
processing, graphic display	uata	structures, metamorphism, pla	
	2 268	models, Triassic, Jurassic, Bri	
(Starkey, J.)	2 200	Columbia, central, Pinchi faul	
Theoretical studies	etenin	(Paterson, I. A.)	6 1324
Banded structures, classification	, strain,	Fold belts, folds, anticlinoria, fa	
perturbations	0 1701	displacements, reactivation, u	
(Cobbold, P. R.)	8 1721	orogeny, sedimentary cover, l	Precambrian,
Banded structures, genesis, rheo		Proterozoic, Paleozoic, North	west
(Cobbold, P. R.)	11 2510	Territories, Arctic Archipelag	ю,
Sulfur		Cornwallis fold belt	
Geochemistry		(Kerr, J. W.)	6 1374
Igneous rocks, volcanic, statistic	al analysis,	Fold belts, intrusions, island are	cs,
data, applications, ore deposit	s, sulfides,	volcanism, subduction, rifting	, Paleozoic,
Precambrian, Ontario		Mesozoic, Tertiary, British C	olumbia,
(Naldrett, A. J., et al.)	4 539	Canadian Cordillera	
Isotopes		(Muller, J. E.)	9 2062
S-34/S-32, evaporites, stratigrap	hy,	Models, constraints, Precambris	an.
Cambrian, Devonian, Northw	est	Phanerozoic, Appalachians,	-
Territories		Newfoundland	
(Van Everdingen, R. O., et al.	12 2790	(Bell, K., et al.)	3 456
S-34/S-32, ratios, analysis, data	abundance,	Rifting, displacements, continer	
minerals, sulfides, sulfates, ign		melange, ophiolite, plate tech	
basalt, sediments, cores, Atlan		Precambrian, Cambrian, Orde	
North Atlantic	,	Fleur de Lys Supergroup, Ap	
(Krouse, H. R., et al.)	4 787	Newfoundland	paracinans,
Sweden			5 987
Sedimentary petrology		(Williams, H.)	3 96
Sedimentation, processes, Holod	rene	Structure	
modern, southwest, Lake Var		Allochthons, block structures, r	
(Haakanson, L.)	3 397	paleomagnetism, Triassic, Ala	aska,
Symposia	3 391	Wrangellia	44 000
		(Hillhouse, J. W.)	11 2578
Oceanography	ing Project	Allochthons, extent, nomenclat	
Atlantic Ocean, Deep Sea Drill		British Columbia, Alaska, Wi	-
Leg 37, Alberta, Edmonton,		(Jones, D. L., et al.)	11 256
(Aumento, F.)	4 651	Allochthons, metamorphic rock	
Tectonics		petrology, Paleozoic, Cambri	
Canada		Ordovician, Newfoundland,	Hare Bay
British Columbia, Coast plutoni		(Jamieson, R. A.)	3 340
folds, intrusions, plutons, pal		Faults, displacements, folds, do	mes, basins,
plate tectonics, evolution, Cr	etaceous,	aerial photography, Canada.	

aerial photography, Canada, Quebec,

	SUBJ	ECT INDEX	3013
Ungava		Tertiary	
(Grenon, A., et al.)	3 500	Canada	
Faults, fault zones, interpretation, ma anomalies, gravity anomalies, maps	-	Canadian Cordillera, paleogeogra	phy,
tectonics, crust, oceanic, continents		sedimentary basins, tectonics	10 0111
contact, British Columbia, Vancouv		(Eisbacher, G. H.)	10 2414
Island, Washington, Olympic Penin		Canadian Cordillera, plate tector	
Juan de Fuca Strait, Calawah Fault		igneous activity, lower Tertiary	
	2 223	(Griffiths, J. R.)	7 1611
(MacLeod, N. S., et al.)		Northwest Territories, Ellesmere	Island,
Faults, folds, en echelon, imbrication,		Axel Heiberg Island, coal, coal	lification,
interpretation, models, Canada, Qu	lebec,	lower Tertiary, Eureka Sound	Formation
Appalachians, Saint Dominique	5 1085	(Bustin, R. M., et al.)	7 1588
		Triassic	
Faults, horsts, grabens, fold belts, age		Canada	
Paleozoic, Silurian, New Brunswich	k, west-	British Columbia, metamorphism	
central	0 1706	polymetamorphism, tectonics,	
*	8 1796	correlation, biostratigraphy, ab	
Fold belts, gravity anomalies, metamo	-	unconformities, boundary, low	
rocks, density, Precambrian, Proter		(Read, P. B., et al.)	4 606
Aphebian, Quebec, Labrador Troug		British Columbia, north-central,	4 000
(Kearey, P.)	1 45	sedimentary rocks, igneous roc	ke
Fold belts, zoning, tectonostratigraph			
zones, stratigraphic units, definition		volcanic, lithostratigraphy, rev	
Precambrian, Paleozoic, Appalachi		nomenclature, new names, upp	
Newfoundland, New Brunswick, A		Takla Group, Dewar Formatio	
Zone, Gander Zone, Fredericton Z		Mountain Formation, Moosev	ale
(Fyffe, L. R.)	6 1468	Formation	
Folds, faults, structural analysis, ore		(Monger, J. W. H., et al.)	2 318
deposits, gold, copper, mineralizati	ion,	Canadian Cordillera, lithostratign	
Canada, Ontario, Timmins	. 1046	(Monger, J. W. H.)	8 1832
(Davies, J. F.)	5 1046	Europe	
Folds, nappes, faults, metasedimentar	гу	France, Vosges, paleomagnetism	, lower
rocks, structural analysis,		Triassic, Bunter, Voltzia Sands	stone
lithostratigraphy, Paleozoic, British	1	(Biquand, D.)	7 1490
Columbia, Riondel	10 2201	United States	
,	10 2301	Alaska, paleomagnetism, Nikolai	i
Metamorphic belts, schist, gneiss, bo	-	Greenstone	
Precambrian, Ontario, northwest,	Quetico	(Hillhouse, J. W.)	11 2578
Belt, Wabigoon Belt	8 1959	Trilobita	
(Blackburn, C. E., et al.) Meteor craters, gravity anomalies, m		Faunal studies	
		Silurian, Wenlockian, Northwest	Territories,
anomalies, country rocks, density,		Baillie-Hamilton Island, morph	
Saskatchewan, Gow Lake	8 1788	taxonomy, new taxa	
(Thomas, M. D., et al.)  Mobile belts, shear zones, metamorp		(Perry, D. G., et al.)	2 285
	-	Uranium	
metamorphic rocks, domains, litho		Abundance	
basement, Precambrian, Canadian Saskatchewan, north	Smeid,	Igneous rocks, basalt, oceanic, v	ariations
(Lewry, J. F., et al.)	6 1453	enrichment, analysis, fission-t	
Trenches, gravity surveys, Bouguer	0 1433	rock, data, cores, Atlantic Oc	
anomalies, sedimentary cover, thic	okness	Atlantic	can, reorm
interpretation, models, subduction		(Mitchell, W. S., et al.)	4 794
ancient, basement, Precambrian, E		Exploration	4 /94
Columbia, Rocky Mountain Trend		Ore deposits, ore guides, hydrog	
(Spence, G. D., et al.)	1 25		
(Spence, O. D., et al.)	1 23	(Levinson, A. A.)	11 2679

Tectonophysics Crust, Mohorovicic discontinuity, Ukrainian Shield (Krutikhovskaya, Z. A., et al.) 12 2718 Volcanology Volcanism Zoning, Precambrian, Coldbrook Group, New Brunswick, south, Eastern volcanic belt, Central volcanic belt, Western volcanic belt		Plutonic rocks, basalt, alteration, enrichment, oxygen, isotopes, de geochemistry, Atlantic Ocean, N Atlantic (Muehlenbachs, K.)	
		Well-logging  Applications	
		Permafrost, extent, thickness, Cana Quebec, Schefferville (Seguin, M. K.)	da, 3 431
(Giles, P. S., et al.)  Washington  Geophysical surveys  Surveys, Juan de Fuca Strait  (MacLeod, N. S., et al.)	6 1263	Permafrost, thickness, techniques, acoustical, electrical, resistivity, of north (Hnatiuk, J., et al.)	Canada,
Volcanology Mount St. Helens (Westgate, J. A.) Weathering	11 2593	Paleontology Graptolithina, Ordovician, north (Lenz, A. C.)	8 1946
Igneous rocks  Basalt, alteration, submarine, Atla Ocean, North Atlantic (Baragar, W. R. A., et al.)	antic 4 837	Stratigraphy Jurassic, biostratigraphy, Mollusca Arctic region, Bonnet Lake (Frebold, H., et al.)	n, north,
Basalt, alteration, submarine, low temperature, crust, oceanic, Layer 2, Atlantic Ocean, North Atlantic (Andrews, A. J.) 4 911  Basalt, breccia, alteration, submarine, Atlantic Ocean, North Atlantic (Scarfe, C. M., et al.) 4 903		Zinc  Canada  Northwest Territories, Arctic Arc Cornwallis District, ore deposits zinc deposits, mineralization, m valley-type, genesis, controls	hipelago, s, lead- ississippi
Basalt, ultramafic family, alteration submarine, leaching, metals, va	on,	(Kerr, J. W.) Ontario, Thunder Bay District, or	

10 2262

depletion, Atlantic Ocean, North Atlantic

Gabbro, mineral composition, clay minerals, X-ray data, Quebec, Mount Megantic

(Crocket, J. H., et al.)

(Clement, P., et al.)

veins, ore minerals, geochemistry, major

9 1963

elements, minor elements, isotopes,

Aphebian, Sibley Group

(Franklin, J. M., et al.)

mineralization, controls, Precambrian,

# Canadian Journal Journal canadien des of Earth Sciences sciences de la terre

Volume 14 • 1977

Editor E. R. W. NEALE Director scientifique

Assistant to the Editor MARION G. BENSON Adjointe au directeur scientifique

# Associate Editors/Directeurs scientifiques associés

M. J. BERRY
W. BLAKE JR.
W. G. E. CALDWELL
E. A. CHRISTIANSEN
R. D. DALLMEYER

E. DIMROTH
H. J. GREENWOOD
R. W. HUTCHINSON
P. F. KARROW
C. E. KEEN
J. LAJOIE

D. J. MCLAREN
B. R. PELLETIER
R. A PRICE
L. S. RUSSELL
R. D. RUSSELL

PUBLISHING DEPARTMENT SERVICE DE PUBLICATION at the National Research Council of Canada du Conseil national de recherches du Canada

Editor-in-chief C. T. BISHOP Directeur général

Assistant Editor-in-chief P. A. REDHEAD Directeur général adjoint

Manager H. WILLIAMSON Directeur administratif

Publishing Supervisor S. E. JENNESS Préposé de la publication

Senior Publication Officer F. M. KAVCIC Agent supérieur à la publication

Publication Officer L. de BIE Agent à la publication

Published by the National Research Council of Canada Publié par le Conseil national de recherches du Canada



# **CONTENTS**

JANUARY	
ARTICLES:	
H. Kodama, J. A. McKeague, R. J. Tremblay, J. R. Gosselin, and M. G. Townsend Characterization of iron oxide compounds in soils by Mössbauer and other methods	1
Gary R. Olhoeft Electrical properties of natural clay permafrost	16
G. D. Spence, R. M. Ellis, and R. M. Clowes Gravity evidence against a high-angle fault crossing the Rocky Mountain Trench near Radium, British Columbia	25
John V. Ross The internal fabric of an alpine peridotite near Pinchi Lake, central British Columbia	32
P. Kearey A gravity survey of the central Labrador Trough, northern Quebec	45
Ian R. Fletcher and R. M. Farquhar Lead isotopes in the Grenville and adjacent Palaeozoic formations	56
Icaro Vitorello and Rob Van der Voo Late Hadrynian and Helikian pole positions from the Spokane Formation, Montana	67
Michael J. Walawender Shock-produced mosaicism in plagioclase, Charlevoix Structure, Quebec	74
E. J. Schwarz Depth of burial from remanent magnetization: the Sudbury irruptive at the time of diabase intrusion (1250 Ma)	82
Hans Frebold and T. P. Poulton Hettangian (Lower Jurassic) rocks and faunas, northern Yukon Territory	89
W. T. Coulbourn and R. Moberly Structural evidence of the evolution of fore-arc basins off South America	102
W. J. Scott and J. A. Hunter Applications of geophysical techniques in permafrost regions	117
NOTES:	
V. K. Gupta and K. B. S. Burke Density and magnetic susceptibility measurements in southeastern New Brunswick	128
T. J. Frest and H. L. Strimple Carpocrinus (Echinodermata: Crinoidea) from the Late Silurian of Somerset Island, Northwest Territories, Canada	132
DISCUSSIONS:	
Charles J. Hughes Archean variolites – quenched immiscible liquids: Discussion	137
A. R. Philpotts Archean variolites – quenched immiscible liquids: Discussion	139
FEBRUARY	
ARTICLES;	
P. M. Duncan and G. D. Garland A gravity study of the Saguenay Area, Quebec	145
Geoffrey Norris Palynofloral evidence for terrestrial Middle Jurassic in the Moose River Basin, Ontario	153
J. K. Park A reconnaissance paleomagnetic survey of the Central Labrador Trough, Quebec	159
Brian R. Rust Mass flow deposits in a Quaternary succession near Ottawa, Canada: diagnostic criteria for subaqueous outwash	175
T. Rivers and W. K. Fyson Shape, size, and orientation of muscovite crystals in a schist of variable metamorphic grade	185
R. F. Mereu, S. C. Majumdar, and R. E. White The structure of the crust and upper mantle under the highest ranges of the Canadian Rockies from a seismic refraction survey	196
J. Ross Mackay Pulsating pingos, Tuktoyaktuk Peninsula, N.W.T.	209
N. S. MacLeod, D. L. Tiffin, P. D. Snavely, Jr., and R. G. Currie Geologic interpretation of magnetic and gravity anomalies in the Strait of Juan de Fuca, U.SCanada	223

R. K. Pickerill, B. V. Roulston, and J. P. A. Noble Trace fossils from the Silurian Chaleurs Group of southeastern Gaspé Peninsula, Quebec	239
J. Dubois, J. Launay, J. Marshall, and J. Recy New Hebrides Trench: subduction rate from associated lithospheric bulge	250
Y. Honkura, R. D. Kurtz, and E. R. Niblett Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City	256
John Starkey The contouring of orientation data represented in spherical projection	268
Norman M. Savage Lower Devonian conodonts from the Karheen Formation, southeastern Alaska	278
D. G. Perry and B. D. E. Chatterton Silurian (Wenlockian) trilobites from Baillie-Hamilton Island, Canadian Arctic Archipelago	285
NOTES:	
J. W. H. Monger and B. N. Church Revised stratigraphy of the Takla Group, north-central British Columbia	318
Charles S. Churcher and Paul F. Karrow Late Pleistocene muskox (Ovibos) from the Early Wisconsin at Scarborough Bluffs, Ontario	326
DISCUSSIONS:	
A. E. Beck Geothermal measurements in five small lakes of northwest Ontario: Discussion	332
R. G. Allis and G. D. Garland Geothermal measurements in five small lakes of northwest Ontario: Reply	334
MARCH	
ARTICLES:	
A. Hayatsu and C. M. Carmichael Removal of atmospheric argon contamination and the use and misuse of the K-Ar isochron method	337
R. A. Jamieson A suite of alkali basalts and gabbros associated with the Hare Bay Allochthon of western Newfoundland	346
J. A. Westgate, E. A. Christiansen, and J. D. Boellstorff Wascana Creek Ash (Middle Pleistocene) in southern Saskatchewan: characterization, source, fission track age, palaeomagnetism, and stratigraphic significance	357
J. Hnatiuk and A. G. Randall Determination of permafrost thickness in wells in northern Canada	375
R. P. Riddihough A model for recent plate interactions off Canada's west coast	384
Lars Hakanson The influence of wind, fetch, and water depth on the distribution of sediments in Lake Vänern, Sweden	397
A. Achab Les chitinozoaires de la zone à Dicellograptus complanatus, Formation de Vauréal, Ordovicien supérieur Ile d'Anticosti, Québec	413
P. F. Karrow, W. Harrison, and H. C. Saunderson Reworked Middle Wisconsin (?) plant fossils from the Brampton Esker, southern Ontario	426
Maurice KSeguin Détermination de la géométrie et des propriétés physiques du pergélisol discontinu de la région de Schefferville	431
Eric C. Syme and Richard W. Forester Petrogenesis of the Boundary intrusions in the Flin Flon area of Saskatchewan and Manitoba	444
Keith Bell, John Blenkinsop, and D. F. Strong The geochronology of some granitic bodies from eastern Newfoundland and its bearing on Appalachian evolution	456
E. Dawson and L. R. Newitt An analytical representation of the geomagnetic field in Canada for 1975. Part I: the main field	477
W. S. McKerrow and L. R. M. Cocks The location of the Iapetus Ocean suture in Newfoundland	488

NOTES:	
<b>John P. Greenhouse and Alan V. Morgan</b> Resistivity mapping of fossil permafrost patterns in southwestern Ontario	496
Alain Grenon, Denis W. Roy et Kamal N. M. Sharma Rejet net probable de la faille de LG-3 et identification de structures en domes et bassins, territoire du Nouveau-Quebec, Quebec	500
DISCUSSIONS:	
<b>Raymond E. Smith</b> Petrography and geochemistry of epidote alteration patches in gabbro dykes at Matagami, Quebec: Discussion	505
D. B. Harrigan and W. H. MacLean Petrography and geochemistry of epidote alteration patches in gabbro dykes at Matagami, Quebec: Reply	507
D. Cruden Length distribution of strike-slip faults and the process of breakage in the continental crust: Discussion	508
G. Ranalli Length distribution of strike-slip faults and the process of breakage in continental crust: Reply	509
COMMUNICATION:	
C. Brooks Archean variolites: source of iron in the Precambrian environment?	511
APRIL (PART 1)	
ARTICLES:	
N. A. Duke and A. D. Edgar Petrology of the Blue Mountain and Bigwood felsic alkaline complexes of the Grenville Province of Ontario	514
A. J. Naldrett and A. M. Goodwin Volcanic rocks of the Blake River Group, Abitibi Greenstone Belt, Ontario and their sulfur content	539
Tatsuro Matsumoto Timing of geological events in the circum Pacific region	551
Frances J. Hein and Roger G. Walker Bar evolution and development of stratification in the gravelly, braided, Kicking Horse River, British Columbia	562
Ming-Ko Woo and Philip Marsh	571
J. Wong, J. R. Rossiter, G. R. Olhoeft, and D. W. Strangway Permafrost: electrical properties of the active layer measured in situ	582
Hans-Dieter Sues Dentaries of small theropods from the Judity River Formation (Campanian) of Alberta, Canada	587
C. T. Schafer Distribution and depositional history of sediments in Baie des Chaleurs, Gulf of St. Lawrence	593
P. B. Read and Andrew V. Okulitch The Triassic unconformity of south-central British Columbia	606
C. B. Crampton A study of the dynamics of hummocky microrelief in the Canadian north	639
APRIL (PART 2)	
DSDP LEG 37 SYMPOSIUM	
ARTICLES:	
F. Aumento Deep drill—1974	651
M. L. Wayman and M. E. Evans Oxide microstructures and the magnetic properties of Leg 37 basalts	656
D. I. Ross and R. K. H. Falconer Mid-Atlantic Ridge at 37°N: geophysical anomalies in the area of Leg 37 drilling	664

Wallace H. MacLean Sulfides in Leg 37 drill core from the Mid-Atlantic Ridge

Patrick J. C. Ryall, James M. Hall, J. Clark, and T. Milligan Magnetization of oceanic crustal layer 2—results and thoughts after DSDP Leg 37	684
Robert C. Howe and C. Howard Ellis Calcareous nannofossils from Mid-Atlantic basement rocks of DSDP Leg 37	707
David J. Dunlop and Christopher J. Hale Simulation of long-term changes in the magnetic signal of the oceanic crust	716
C. M. Carmichael Magnetization and suitability for paleomagnetic field intensity measurements of selected samples from sites 332, 334, and 335 of Leg 37 DSDP	745
H. H. Schloessin On the pressure dependence of solidus temperatures and electrical conductivity during melting of JOIDES Leg 37 samples	756
G. L. Cumming Lead and uranium in basalts from DSDP Leg 37 cores	768
K. Muehlenbachs Oxygen isotope geochemistry of rocks from DSDP Leg 37	771
James H. Crocket and Yuko Teruta Palladium, iridium, and gold contents of mafic and ultramafic rocks drilled from the Mid-Atlantic Ridge, Leg 37, Deep Sea Drilling Project	777
M. Yamaguchi, R. D. Russell, and W. F. Slawson Concentration and composition of lead in DSDP Leg 37 cores	785
H. R. Krouse, H. M. Brown, and R. B. Farquharson Sulphur isotope compositions of sulphides and sulphates DSDP Leg 37	787
William S. Mitchell and Fabrizio Aumento Uranium in oceanic rocks: DSDP Leg 37	794
Richard St. John Lambert and James Grenville Holland Trace elements and petrogenesis of DSDP 37 basalts	809
W. R. A. Baragar, A. G. Plant, G. J. Pringle, and Mikkel Schau Petrology and alteration of selected units of Mid-Atlantic Ridge basalts sampled from sites 332 and 335, DSDP	837
W. B. Bryan and G. Thompson Basalts from DSDP Leg 37 and the FAMOUS area: compositional and petrogenetic comparisons	875
Herwart Helmstaedt and John M. Allen Metagabbronorite from DSDP hole 334: an example of high-temperature deformation and recrystallization near the Mid-Atlantic Ridge	886
L. Dmitriev and F. Aumento Geochemical characteristics and evolution of basalts from DSDP site 332	899
C. M. Scarfe and D. G. W. Smith Secondary minerals in some basaltic rocks from DSDP Leg 37	903
A. J. Andrews Low temperature fluid alteration of oceanic layer 2 basalts, DSDP Leg 37	911
MAY	
ARTICLES:	
Yuch-Ning Shieh and Henry P. Schwarcz An estimate of the oxygen isotope composition of a large segment of the Canadian Shield in northwestern Ontario	927
Martin Walters Middle and Upper Ordovician graptolites from the St. Lawrence Lowlands, Quebec, Canada	932
M. V. H. Wilson Paleoecology of Eocene lacustrine varves at Horsefly, British Columbia	953
D. M. Shackleton and L. V. Hills Post-glacial ungulates (Cervus and Bison) from Three Hills, Alberta	963
Harold Williams Ophiolitic mélange and its significance in the Fleur de Lys Supergroup, northern Appalachians	987
M. S. King Acoustic velocities and electrical properties of frozen sandstones and shales	1004
Anna-Stina Edhorn Early Cambrian algae croppers	1014
W. M. Schwerdtner, P. J. Bennett, and T. W. Janes Application of L-S fabric scheme to structural mapping and paleostrain analysis	1021

K. E. Seifert, A. F. Voigt, M. F. Smith, and W. A. Stensland Rare earths in the Marcy and Morin anorthosite complexes

J. F. Davies Structural interpretation of the Timmins Mining area, Ontario	1046
<b>John S. Mothersill</b> Selected element concentrations in the post-glacial sediments of Thunder Bay, Lake Superior: distribution and methods of analyses	1054
K. F. Sprenke and E. R. Kanasewich Synthetic seismograms and the response of an anisotropic attenuating medium	1062
Peter L. Roeder and John M. Dixon A centrifuge furnace for separating phases at high temperature in experimental petrology	1077
Gilbert Prichonnet et Michel Raynal La tectonique du front appalachien dans la région de St-Dominique, Québec	1085
A. J. Wickens The upper mantle of southern British Columbia	1100
J. L. Roy La position stratigraphique déterminée paléomagnétiquement de sédiments carbonifères de Minudie Point, Nouvelle Ecosse: à propos de l'horizon repère magnétique du Carbonifère	1116
Steven G. Henry, Frederick J. Mauk, and Rob Van der Voo Paleomagnetism of the upper Keweenawan sediments: the Nonesuch Shale and Freda Sandstone	1128
Mark V. H. Wilson New records of insect families from the freshwater Middle Eocene of British Columbia	1139
W. R. Church and L. Riccio Fractionation trends in the Bay of Islands ophiolite of Newfoundland: polycyclic cumulate sequences in ophiolites and their classification	1156
Thomas W. Broadhead and Harrell L. Strimple Permian platycrinitid crinoids from Arctic North America	1166
NOTES:	
James P. Hibbard, S. Stouge, and D. Skevington Fossils from the Dunnage Mélange, north-central Newfoundland	1176
J. Schroeder Les formes de glaces des grottes de la Nahanni, Territoires du Nord-Ouest, Canada	1179
June	
ARTICLES:	
E. Irving, R. F. Emslie, and J. K. Park Paleomagnetism of the Harp Lake Complex and associated rocks	1187
Roger H. Mitchell Ultramafic xenoliths from the Elwin Bay kimberlite, the first Canadian paleogeotherm	1202
J. B. Currie and G. A. Reik A method of distinguishing regional directions of jointing and of identifying joint sets associated with individual geologic structures	1211
P. A. Camfield and D. I. Gough A possible Proterozoic plate boundary in North America	1229
John Shaw Tills deposited in arid polar environments	1239
D. T. A. Symons Geotectonics of Cretaceous and Eocene plutons in British Columbia: a paleomagnetic fold test	1246
P. S. Giles and A. A. Ruitenberg Stratigraphy, paleogeography, and tectonic setting of the Coldbrook Group in the Caledonia Highlands of southern New Brunswick	1263
Ron M. Clowes A marine deep seismic sounding system	1276
F. F. Langford Northern extent of Lake Agassiz in eastern Saskatchewan	1286
G. Buchbinder and G. Poupinet P-wave residuals in Canada	1292
Frances J. E. Wagner Palaeoecology of marine Pleistocene Mollusca, Nova Scotia	1305
I. A. Paterson The geology and evolution of the Pinchi Fault Zone at Pinchi Lake, central British Columbia	1324
Norman M. Savage Middle Devonian (Eifelian) conodonts of the genus <i>Polygnathus</i> from the Wadleigh Limestone, southeastern Alaska	1343
Rosaline Frith, R. A. Frith, and R. Doig The geochronology of the granitic rocks along the Bear-Slave Structural Province boundary, northwest Canadian Shield	1356
J. Wm. Kerr Cornwallis Fold Belt and the mechanism of basement uplift	1374

J. Wm. Kerr Cornwallis Lead-Zinc District; Mississippi Valley-type deposits controlled by stratigraphy and	
tectonics	1402
Brian Jones and Owen A. Dixon Stratigraphy and sedimentology of Upper Silurian rocks, northern Somerset Island, Arctic Canada	1427
John F. Lewry and Thomas I. I. Sibbald Variation in lithology and tectonometamorphic relationships in the Precambrian basement of northern Saskatchewan	1453
DISCUSSION:	
L. R. Fyffe Comparison of some tectonostratigraphic zones in the Appalachians of Newfoundland and New Brunswick: Discussion	1468
JULY	
J. E. Armstrong and J. J. Clague Two major Wisconsin lithostratigraphic units in southwest British Columbia	1471
G. P. Beakhouse A subdivision of the western English River subprovince	1481
	1401
Daniel Biquand Paléomagnetisme de la formation des 'grès-à-Voltzia' (Buntsandstein supérieur) du massif des Vosges (France)	1492
Gerald D. Osborn Episodic Holocene alluviation in meltwater channels near Calgary, Alberta	1515
Alfred C. Lenz Llandoverian and Wenlockian brachiopods from the Canadian Cordillera	1521
Edwin D. Ongley, John G. Ralston, and Richard L. Thomas Sediment and nutrient loadings to Lake Ontario: methodological arguments	1555
David B. Scott, Franco S. Medioli, and Charles T. Schafer Temporal changes in foraminiferal distributions in Miramichi River estuary, New Brunswick	1566
R. M. Bustin, L. V. Hills, and P. R. Gunther Implications of coalification levels, Eureka Sound Formation, northeastern Arctic Canada	1585
B. J. Fryer Trace element geochemistry of the Sokoman Iron Formation	1598
John R. Griffiths Mesozoic – early Cenozoic volcanism, plutonism, and mineralization in southern British Columbia: a plate tectonic synthesis	1611
Allan C. Ashworth A late Wisconsinan Coleopterous assemblage from southern Ontario and its environmental significance	1625
Jackson M. Barton, Jr. Rb-Sr ages and tectonic setting of some granite intrusions, coastal Labrador	1635
P. W. Basham, D. A. Forsyth, and R. J. Wetmiller The seismicity of northern Canada	1646
W. R. Church The ophiolites of southern Quebec: oceanic crust of Betts Cove type	1668
Peter W. Bretsky Macroinvertebrate teilzones and episodic faunal changes from an Upper Ordovician flysch in Quebec	1674
NOTES:	
L. R. Fyffe, R. R. Irrinki, and R. F. Cormier A radiometric age of deformed granitic rocks in north-central New Brunswick	1687
Lee C. Pigage Rb-Sr dates for granodiorite intrusions on the northeast margin of the Shuswap Metamorphic Complex, Cariboo Mountains, British Columbia	1690
AUGUST	
Editorial Policy / Politique éditoriale	i
SI Units and Symbols / Unités et symboles SI	iii
ARTICLES:	
Jean-Pierre Brun La zonation structurale des dômes gneissiques. Un exemple: le massif de Saint-Malo (Massif armoricain, France)	1697

<b>S. G. Themistocleous and W. M. Schwerdtner</b> Estimates of distortional strain in mylonites from the Grenville Front Tectonic Zone, Tomiko area, Ontario	1708
P. R. Cobbold Description and origin of banded deformation structures. I. Regional strain, local perturbations, and deformation bands	1721
<b>Edwin Bourget</b> Observations on the effects of frost on beach sediments at Rimouski, lower St. Lawrence Estuary, Quebec	1732
<b>Hewitt H. Bostock</b> The composition of hornblende, grunerite, and garnet in Archean iron formation of the Itchen Lake area, District of Mackenzie, Canada	1740
R. L. Coles and R. G. Currie Magnetic anomalies and rock magnetizations in the southern Coast Mountains, British Columbia: possible relation to subduction	1753
Grant M. Young Stratigraphic correlation of upper Proterozoic rocks of northwestern Canada	1771
M. D. Thomas and M. J. S. Innes The Gow Lake impact structure, northern Saskatchewan	1788
<b>Brian H. O'Brien</b> Pre-Acadian deformation, metamorphism, and intrusion in the vicinity of the Pokiok Pluton, west-central New Brunswick, and its regional implications	1796
B. H. Luckman Lichenometric dating of Holocene moraines at Mount Edith Cavell, Jasper, Alberta	1809
<b>Richard C. Fox</b> Notes on the dentition and relationships of the Late Cretaceous insectivore <i>Gypsonictops</i> Simpson	1823
<b>J. W. H. Monger</b> Upper Paleozoic rocks of the western Canadian Cordillera and their bearing on Cordilleran evolution	1832
Yukio Ikeda Grain size of plagioclase of the basaltic andesite dikes, Iritono, central Abukuma plateau	1860
H. C. Palmer, B. A. Merz, and A. Hayatsu petrochemistry, and K-Ar age studies	1867
W. R. Sigleo and P. F. Karrow Pollen-bearing Erie Interstadial sediments from near St. Mary's, Ontario	1888
J. R. Keeley and A. J. Bowen Longshore variations in longshore currents	1897
J. R. Keeley Nearshore currents and beach topography, Martinique Beach, Nova Scotia	1906
<b>R. Johnson</b> Size independent criteria for estimating relative age and the relationships among growth parameters in a group of fossil reptiles (Reptilia: Ichthyosauria)	1916
B. MacLean, L. F. Jansa, R. K. H. Falconer, and S. P. Srivastava Ordovician strata on the southeastern Baffin Island shelf revealed by shallow drilling	1925
NOTES:	
Alan B. Blaxland and Laurence W. Curtis Chronology of the Red Wine alkaline province, central Labrador	1940
A. C. Lenz Some Pacific Faunal Province graptolites from the Ordovician of northern Yukon, Canada	1946
Iain Allison and Timothy E. La Tour Brittle deformation of hornblende in a mylonite: a direct geometrical analogue of ductile deformation by translation gliding	1953
DISCUSSION:	
C. E. Blackburn and W. O. Mackasey Nature of the Quetico-Wabigoon boundary in the De Courcey-Smiley Lakes area, northwestern Ontario: Discussion	1959
September	
Editorial Policy / Politique éditoriale	
SI Units and Symbols / Unités et symboles SI	i
ARTICLES:	iii
J. M. Franklin and R. H. Mitchell Lead-zinc-barite veins of the Dorion Area, Thunder Bay District, Ontario	10/4
	1963
J. A. Donaldson and R. W. Ojakangas Orthoquartzite pebbles in Archean conglomerate, North Spirit Lake,	1000

H. R. Jackson, C. E. Keen, and D. L. Barrett Geophysical studies on the eastern continental margin of Baffin Bay and in Lancaster Sound	1991
Uwe Brand and Brian R. Rust The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario	2002
G. Vilks, J. M. Hall, and David J. W. Piper The natural remanent magnetization of sediment cores from the Beaufort Sea	2007
Frances J. E. Wagner Recent mollusc distribution patterns and palaeobathymetry, southeastern Beaufort Sea	2013
L. D. Delorme, S. C. Zoltai, and L. L. Kalas Freshwater shelled invertebrate indicators of paleoclimate in northwestern Canada during late glacial times	2029
J. P. Hodych Single-domain theory for the reversible effect of small uniaxial stress upon the remanent magnetization of rock	2047
J. E. Muller Evolution of the Pacific Margin, Vancouver Island, and adjacent regions	2062
R. W. Forester, W. G. E. Caldwell, and F. H. Oro Oxygen and carbon isotopic study of ammonites from the Late Cretaceous Bearpaw Formation in southwestern Saskatchewan	2086
Ian A. Brookes Geomorphology and Quaternary geology of Codroy Lowland and adjacent plateaus, southwest Newfoundland	2101
Ian A. Brookes Radiocarbon age of Robinson's Head moraine, west Newfoundland, and its significance for postglacial sea level changes	2121
D. T. A. Symons Paleomagnetism of Mesozoic plutons in the westernmost Coast Complex of British Columbia	2127
Mavis Z. Stout and J. Nicholls Mineralogy and petrology of Quaternary lavas from the Snake River Plain, Idaho	2140
Manfred M. Kehlenbeck The Barnum Lake Pluton, Thunder Bay, Ontario	2157
NOTE:	
Guy M. Narbonne Stratigraphic setting of the type specimen of Carpocrinus arcticus Frest and Strimple from the Late Silurian of Somerset Island, Arctic Canada	2168
DISCUSSIONS:	
B. E. Broster Magnetic, physical, and lithologic properties and age of till exposed along the east coast of Lake Huron, Ontario: Discussion	2169
Aleksis Dreimanis Magnetic, physical, and lithologic properties and age of till exposed along the east coast of Lake Huron, Ontario: Discussion	2171
C. P. Gravenor and M. Stupavsky Magnetic, physical, and lithologic properties and age of till exposed along the east coast of Lake Huron, Ontario: Reply	2175
R. Grant Cawthorn Archean variolites—quenched immiscible liquids: Discussion	2178
OCTOBER	
Editorial Policy / Politique éditoriale	i
SI Units and Symbols/Unités et symboles SI	
ARTICLES:	
John C. Green and Klaus J. Schulz Iron-rich basaltic komatiites in the early Precambrian Vermilion District, Minnesota	2181
A. Achab Les chitinozoaires de la zone à Climacograptus prominens elongatus de la Formation de Vauréal (Ordovicien supérieur), lle d'Anticosti, Québec	2193
J. Ross Mackay and D. K. MacKay The stability of icepush features, Mackenzie River, Canada	2213
David R. Kobluk, David J. Bottjer, and Michael J. Risk Disorientation of Paleozoic hemispherical corals and stromatoporoids	2226

<b>Denis Lefebvre and Michel David</b> Dynamic clustering and strong patterns recognition: new tools in automatic classification	2232
G. M. Young and D. G. F. Long A tide-influenced delta complex in the upper Proterozoic Shaler Group, Victoria Island, Canada	2246
P. Clément and C. R. De Kimpe Geomorphological conditions of gabbro weathering at Mount Megantic, Quebec	2262
John A. Wade Stratigraphy of Georges Bank Basin: interpreted from seismic correlation to the western Scotian Shelf	2274
D. J. Hearty, R. F. Mereu, and C. Wright Lateral variations in upper crustal structure below the La Malbaie area from slowness, azimuth, and traveltime measurements of teleseisms	2284
James S. Gardner Some geomorphic effects of a catastrophic flood on the Grand River, Ontario	2294
Trygve Höy Stratigraphy and structure of the Kootenay Arc in the Riondel area, southeastern British Columbia	2301
James M. Mattinson U-Pb ages of some crystalline rocks from the Burlington Peninsula, Newfoundland, and implications for the age of Fleur de Lys metamorphism	2316
Georges Simard Carbon 14 and tritium measurements of groundwaters in the Eaton River Basin and in the Mirabel area, Quebec	2325
<b>John V. Matthews, Jr.</b> Coleoptera fossils: their potential value for dating and correlation of late Cenozoic sediments	2339
V. G. Ethier and F. A. Campbell Tourmaline concentrations in Proterozoic sediments of the southern Cordillera of Canada and their economic significance	2348
M. P. Cecile and F. H. A. Campbell Large-scale stratiform and intrusive sedimentary breccias of the lower Proterozoic Goulburn Group, Bathurst Inlet, N.W.T.	2364
Ajit K. Sinha A theoretical study on electromagnetic probing of permafrost terrains	2388
A. L. W. Kemp, R. L. Thomas, H. K. T. Wong, and L. M. Johnston Nitrogen and C/N ratios in the sediments of Lakes Superior, Huron, St. Clair, Erie, and Ontario	2402
G. H. Eisbacher Mesozoic – Tertiary basin models for the Canadian Cordillera and their geological constraints	2414
NOTE:	
Wesley M. Johnson, Lindsay E. Sheppard, and Donald N. Beaton A down-draft fume hood for the control of toxic vapours of heavy liquids used for mineral separations	2422
DISCUSSIONS:	
W. R. Church Early Aphebian basaltic volcanism in the southern District of Keewatin, Northwest Territories: Discussion	2425
R. C. Bailey, R. N. Edwards, and G. D. Garland Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City: Discussion	2426
Y. Honkura, R. D. Kurtz, and E. R. Niblett Geomagnetic depth sounding and magnetotelluric results from a seismically active region northeast of Quebec City: Reply	2427
November	
ARTICLES:	
J. W. Armon and S. B. McCann Longshore sediment transport and a sediment budget for the Malpeque barrier system, southern Gulf of St. Lawrence	2429
Karen Stamatelopoulou-Seymour and Wallace H. MacLean The geochemistry of possible metavolcanic rocks and their relationship to mineralization at Montauban-Les-Mines, Quebec	2440
Paul D. Ryan and Jean B. Archer The South Mayo Trough: a possible Ordovician Gulf of California-type marginal basin in the west of Ireland	2453

DECEMBER	
A. A. Levinson Hydrogen—a reducing agent in some uranium deposits	2679
	2674
COMMUNICATIONS:	
Uwe Brand and Brian R. Rust The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario: Reply	2671
Robert G. Greggs and I. J. Bond The age and upper boundary of the Nepean Formation in its type section near Ottawa, Ontario: Discussion	2669
DISCUSSIONS:	
J. Keith Rigby A new Middle Ordovician sponge from western Newfoundland	2662
O. Mokievsky-Zubok Glacier-caused slide near Pylon Peak, British Columbia 2	2657
Michio Hashizume and Nagakoto Tange Source parameters of the June 13, 1967 earthquake near Lake Ontario, New York State	2651
NOTES:	
D. H. Hall Partial melting and mineral-stability boundaries and their bearing on the seismic exploration of the lithosphere in Canada 2	2638
N. T. Arndt Thick, layered peridotite-gabbro lava flows in Munro Township, Ontario 2	2620
A. MacS. Stalker The probable extent of Classical Wisconsin ice in southern and central Alberta 2	2614
W. A. Morris and P. W. G. Tanner The use of paleomagnetic data to delineate the history of the development of the Connemara Antiform	2601
J. A. Westgate Identification and significance of late Holocene tephra from Otter Creek, southern British Columbia, and localities in west-central Alberta	2593
J. W. Hillhouse Paleomagnetism of the Triassic Nikolai Greenstone, McCarthy Quadrangle, Alaska 2	2578
David L. Jones, N. J. Siberling and John Hillhouse Wrangellia—A displaced terrane in northwestern North America 2	2565
Lewis H. King and Ian F. Young Paleocontinental slopes of East Coast Geosyncline (Canadian Atlantic margin)	2553
Russell S. Harmon, Derek C. Ford and Henry P. Schwarcz Interglacial chronology of the Rocky and Mackenzie Mountains based upon <sup>230</sup> Th- <sup>234</sup> U dating of calcite speleothems 2.	2543
H. J. Lee and J. P. A. Noble area, New Brunswick Silurian stratigraphy and depositional environments: Charlo – Upsalquitch Forks	2533
G. E. Reinson Tidal-current control of submarine morphology at the mouth of the Miramichi estuary, New Brunswick 2	2524
P. R. Cobbold Description and origin of banded deformation structures. II. Rheology and the growth of banded perturbations	2510
Darrel G. F. Long Resedimented conglomerates of Huronian (lower Aphebian) age, from the north shore of Lake Huron, Ontario, Canada 24	495
H. S. Hasegawa Focal parameters of four Sverdrup Basin, Arctic Canada, earthquakes in November and December of 1972	481
A. Pissart, J-S. Vincent et S. A. Edlund Dépôts et phénomènes éoliens sur l'île de Banks. Territoires du Nord-Ouest, Canada 24	462

R. E. Meyers and R. F. Emslie The Harp dikes and their relationship to the Helikian geological record in central Labrador

ARTICLES:

R. M. Koerner  1ce thickness measurements and their implications with respect to past and present ice volumes in the Canadian High Arctic ice caps	2697
Karl E. Seifert and Alan J. VerPloeg Deformational characteristics of experimentally deformed Adirondack anorthosite	2706
Z. A. Krutikhovskaya and I. K. Pashkevich Magnetic model for the earth's crust under the Ukrainian Shield	2718
R. K. Pickerill and B. V. Roulston Enigmatic trace fossils from the Silurian Chaleurs Group of the southeastern Gaspé Peninsula, Quebec	2729
Alan M. Goodwin Archean basin-craton complexes and the growth of Precambrian shields	2737
K. M. Krupka, H. Ohmoto, and F. E. Wickman A new technique in neutron activation analysis of Na/K ratios of fluid inclusions and its application to the gold–quartz veins at the O'Brien mine, Quebec, Canada	2760
J. Ducrot et J. R. Lancelot Problème de la limite Précambrien-Cambrien: étude radiochronologique par la méthode U-Pb sur zircons du volcan du Jbel Boho (Anti-Atlas marocain)	2771
G. Leblanc and G. Buchbinder Second microearthquake survey of the St. Lawrence Valley near La Malbaie, Quebec	2778
<b>Robert O. van Everdingen and H. Roy Krouse</b> Stratigraphic differentiation by sulfur isotopes between Upper Cambrian and Lower Devonian gypsum-bearing units, District of Mackenzie, N.W.T.	2790
N. Eyles Late Wisconsinan glacitectonic structures and evidence of post-glacial permafrost in north-central Newfoundland	2797
N. Eyles and R. J. Rogerson Glacier movement, ice structures, and medial moraine form at a glacier confluence, Berendon Glacier, British Columbia, Canada	2807
D. E. Sugden and S. H. Watts Tors, felsenmeer, and glaciation in northern Cumberland Peninsula, Baffin Island	2817
G. H. Miller, J. T. Andrews, and S. K. Short The last interglacial-glacial cycle, Clyde foreland, Baffin Island, N.W.T.: stratigraphy, biostratigraphy, and chronology	2824
N. A. Cochrane and J. A. Wright Geomagnetic sounding near the northern termination of the Appalachian System	2858
Y. Héroux, C. Hubert, B. Mamet, et A. Roux Algues siluriennes de la Formation de Sayabec (Lac Matapédia, Québec)	2865
K. Howells and A. G. McKay Seismic profiling in Miramichi Bay, New Brunswick	2909
Norman M. Savage, Michael Churkin, Jr., and G. Donald Eberlein Lower Devonian conodonts from Port St. Nicholas, southeastern Alaska	2928
NOTES:	
K. L. Currie A note on post-Mississippian thrust faulting in northwestern Cape Breton Island	2937
J. Dostal and M. Fratta Trace element geochemistry of a Precambrian diabase dike from western Ontario	2941
DISCUSSION:	
L. Gélinas, W. E. Trzcienski, Jr., and C. Brooks Archean variolites and the hypothesis of quench immiscible liquids reexamined: a reply to criticisms	2945



